

Surgery

Pancreatitis

Acute and Recurrent

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Pancreatitis is not considered to be a common disease. However, it is being recognized more frequently and is commoner than has been realized heretofore. In the Jewish Hospital, St. Louis, Missouri, routine Serum Amylase estimations were done on 51,000 admissions; 85 cases, or 1 in every 600, showed elevations of the Serum Amylase of sufficient height to make a proper diagnosis of acute pancreatitis. This proved to be commoner than their admissions of perforated ulcer. It is very likely that in many cases of upper abdominal pain which show no duodenal or gastric ulcer and in whom the gall bladder and liver function are normal, pancreatitis in one of its masquerades is present.

Up until recently "acute pancreatitis" meant to most of us the acute hemorrhagic form of the disease—frequently fatal. At present we know that in acute pancreatitis, hemorrhage, suppuration and necrosis do occur, but we also recognize that much more frequently, less severe forms of the disease are present. At operation many cases of pancreatitis are found without any necrosis at all, merely edema. It is these lesser degrees of pancreatitis occurring in single attacks, or often recurring in the same patient many times, which frequently remain unrecognized. Especially is this so when recurrent dyspepsia, with or without pain, is the only manifestation of pancreatitis.

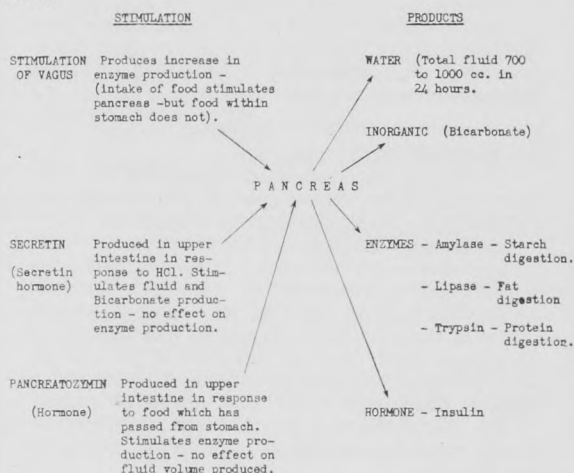
When an acute abdominal condition is being studied, it is important to exclude acute pancreatitis because the ideal treatment is non-operative. Operation may be disastrous.

In the past two years we have seen 18 cases of acute pancreatitis in our practice. It is possible that others have been missed, but with keener appreciation of the clinical picture, and with the aid of Serum Amylase estimations, these cases have been recognized.

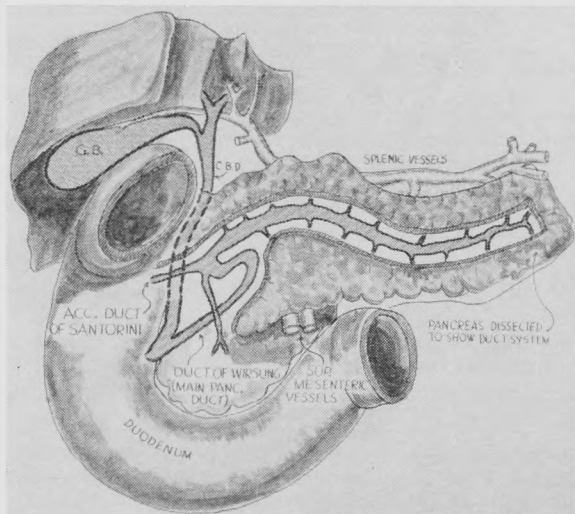
It is the abnormal and premature activation of the precursors of amylase (amylapsin), lipase (steapsin), and trypsin (trypsinogen) within the gland itself which is fundamental to the production of pancreatitis.

But the mechanism responsible for such activation is far from clear.

From a practical point of view the known physiology of the pancreas can be outlined as follows:



Recently it has been demonstrated that emotional stimuli transmitted via indefinite sympathetic pathways may increase pancreatic enzyme production.



In 1919 E. S. Archibald¹ of Montreal subscribed to the theory that spasm of the sphincter of Oddi caused a backing up of pancreatic enzymes and their activation; and also that spasm caused reflux from the common bile duct, thereby activating these enzymes. With infected bile, this was even more likely to occur. This theory of Archibald's presupposes a common channel between the common bile duct and the main pancreatic duct. The difficulty with this is that we are not at all sure how often the junction occurs in human beings. In Sweden, Jorth and Millborn² working independ-

ently, have stated that 86 to 91 per cent of human beings have this common channel, but other authorities do not agree. As a result many theories as to the etiology of pancreatitis have been formed. The following outline includes most of the prevalent theories:

Theories

Infectious — Very doubtful — possibly in chronic interstitial fibrotic pancreatitis where lymphogenous infection from the gall bladder, liver and appendix is believed to cause interstitial tissue inflammation.

Non-Infectious

(a) Mechanical Stasis

1. Undue resistance to emptying of pancreatic duct by stone, spasm, mucous or inflammatory swelling during digestion.

Evidence—Experimental ligation of pancreatic duct—no necrosis. If performed during digestion—necrosis.

2. Obstruction of the duct due to metaplasia of duct epithelium causes extravasation of trypsin with hyaline necrosis of pancreatic arteries and veins—thrombosis and haemorrhage. (Rich and Duff³: 13 out of 24 cases).

(b) Alcoholism — Mechanism unknown — (may produce spasm of sphincter Oddi in duodenum).

(c) Reflux of Bile into pancreatic duct due to elevation of pressure within gall bladder or common bile duct. Changes in composition of bile infection.

Evidence—Bile in contact with pancreas—necrosis. Infected bile (sodium taurocholate +++ necrosis more extensive and more marked). Biliary Calculi in 50% of cases of pancreatitis (Egdahl)⁴.

If at operation in recurrent pancreatitis a cholangiogram is carried out at the same time that 1/10th normal HCl is placed in the duodenum by means of an indwelling tube, reflux of the dye occurs into the pancreatic ducts.

In 65 patients examined by cholangiography, 27 showed regurgitation of contrast medium into the pancreatic duct. In 25 of 27 patients showing this reflux, Serum Amylase levels rose above 200 somogyi units (2 of these cases developed pancreatitis). In 37 of 38 patients showing no reflux into pancreatic duct, Serum Amylase levels remained within normal limits. (This latter work done by Howell⁵ and others in St. Paul, Minnesota, tends to bolster the theory that reflux of bile causes pancreatitis).

Clinically Acute Pancreatitis is frequently a sequel, not a primary disease—75% are associated either with disease of the biliary tract or alcoholism. But in the remainder of cases neither of these factors is demonstrable.

It is this ignorance of the precise etiological factor that clouds our understanding of the condition and therefore makes prevention and treatment difficult.

Pathology

In the gross the normal pancreas is pinkish, lobulated, covered with varying amounts of fat. It feels softly leathery, but one is unable to distinguish the lobules by palpation. The fundamental lesion in pancreatitis is the digestion by activated enzymes of the protein and fat of blood vessels, lymph structures, and pancreatic cells. Inflammatory exudate arises from the pancreas, from the blood vessels, from the peritoneum and surrounding structures. The peritonitis one sees is due to toxic products circulating in the subserous lymphatics, i.e., foreign protein and the products of incomplete protein digestion.

Gross—Varies

from—mild inflammation, simple edema—fluid in lesser sac—mild peritoneal exudate—minimal necrosis.

to—severe inflammation, necrosis (purplish, hemorrhagic)—occasionally gangrene—extensive hemorrhagic peritoneal exudate. Marked fat necrosis.

to—hard, indurated gland—lobules readily distinguishable—simulates carcinoma. May involve whole or part of gland.

Any of the above may result in: Suppuration, localized abscess or bacterial peritonitis; Pseudo-cyst formation (10-15%); Pancreatic Calcification; Pancreatic Lithiasis; Diabetes, 15-25%; Steatorrhoea, 25-30%; Creatorrhoea, 4%.

Trypsin — Digests protein — enzyme responsible for greatest amount of destruction.

Lipase—Responsible for digestion of fats with release of glycerine and fatty acids. The latter combine with calcium to form the "tallow-like" drops of fat necrosis. Lipase is absorbed into the blood stream and its estimation is sometimes useful.

Amylase—Is also poured out from the pancreas. Also absorbed into the blood via the subserous lymphatics. Clinically it is our measurement of the Serum Amylase (Somogyi technique) which gives a lead to the diagnosis. It should be done within twenty-four hours of the onset of the attack.

The clinical picture is a most varied one. The views of the clinical picture have changed markedly. In 1925, 27 years ago, Lord Moynihan⁶ stated: "The clinical picture presented by a case of acute pancreatitis is quite unmistakable." In 1950 Professor Bockus⁷ states: "I believe that it is impossible by bedside examination alone to make an unequivocal definitive diagnosis of acute pancreatitis. The possibility of this diagnosis is today usually considered, but by history and physical examination alone, to differentiate all the conditions which acute pancreatitis can simulate is something that I have not been able to do. Fortunately, pathognomonic value in early diagnosis, and I

would like to emphasize Early, is afforded by Serum Amylase determinations."

The onset of symptoms, frequently follows the ingestion of alcohol or a large amount of food, or a small amount of very "rich" food, especially fat. Frequently the onset is dramatic, the patient collapsing with the pain. The classical type of pain is severe, of a burning-cutting nature, marked in the epigastrium, but radiating out into the loins, especially the left loin, and through to the back. Vomiting follows the pain and may be profuse and continuous. Profound shock occurs in only the most severe cases, and contrary to previous teaching, is present in less than 50% of the cases of acute pancreatitis. Certainly our cases have borne this fact out. Fever and rapid pulse are usually present by the time the patient is seen. Constipation usually is present, and the relief obtained by the passage of small amounts of flatus may be misleading. In our experience rigidity was present only in about one-quarter of the cases, but muscle guarding was always present to a greater or less degree. Tenderness is usually present in the epigastrium, but this too is a variable finding. Cyanosis has not been a striking feature in any of our cases. Leucocytosis is usually present, both the total count and the polymorphonuclear cells being markedly increased. Occasionally small amounts of sugar are found in the urine. This may be an index of the severity of the condition and a prelude to the later development of diabetes. Flat-plate x-ray may be confusing. Occasionally stones may be seen in the gall bladder region, which some consider a lead to the diagnosis. Some authorities have recently described a single dilated loop of bowel as seen in the flat plate, as being pathognomonic of pancreatitis. Practically, this differentiation is difficult to use, especially in deciding between intestinal obstruction and pancreatitis.

Gottesman⁸ has described five cases of pancreatitis in which the electrocardiograph has shown changes suggestive of myocardial infarction. This is important because, although pancreatitis may masquerade as coronary thrombosis, Serum Amylase estimations show no change in the presence of the latter condition. One must remember, however, that acute pancreatitis may precipitate infarction in the presence of previous arterial disease. The difficulty is not lessened when one realizes that anti-coagulants frequently used nowadays in the treatment of coronary thrombosis are definitely contra-indicated in the presence of acute pancreatitis.

It is obvious how difficult it is by clinical examination alone to distinguish acute pancreatitis from: Perforated Duodenal or Gastric Ulcer, Acute Cholecystitis, Billiary Colic, Intestinal Obstruction, Acute Gastritis, Acute Hepatitis, Acute Ap-

pendicitis, Peritonitis, Acute Diverticulitis, Myocardial Infarction, Renal Colic.

This difficulty is further increased by the fact that some of these conditions also cause elevations of the Serum Amylase as shown by the following table:

Serum Amylase

Estimations by Somogyi Technique

Normal 60 - 125 units	
Acute Pancreatitis	Increased usually over 500 units
Recurrent Pancreatitis	Increased—During acute phase, similar to acute pancreatitis
Advanced Chronic Pancreatitis	May be decreased
Carcinoma of Pancreas	May be increased 50% normal
Stone in Common Duct	Increased 70% over normal
Salivary Gland Disease (Mumps)	Increased
Perforated Duodenal Ulcer	Increased—Usually less than 400
Peritonitis	Increased—Usually less than 400
Intestinal Obstruction	Increased—Usually less than 400 (late in case)
Renal Impairment	Increased—Usually less than 400
Codeine or Morphine Derivatives	Increased—(Do not use where pancreatitis suspected). (Mayo Clinic Report)

Serum Amylase estimation is not infallible, and occasionally a low reading is found in acute pancreatitis, even within a few hours of the onset of the condition. In such cases, laparotomy must be resorted to in order that a proper diagnosis can be established.

The mechanism by which these conditions give rise to an elevated Serum Amylase is still a matter for speculation. It is thought that perforated duodenal ulcers produce inflammation of the posterior parietal peritoneum, and consequent inflammation of the pancreas with blockage of the main duct. Peritonitis is thought to act in the same way. A differentiating factor which is of some help is that in conditions other than pancreatitis, the Serum Amylase is seldom elevated above 400 units, whereas in Acute Pancreatitis the elevation is usually above 500 units. Important too is the fact that in both peritonitis and intestinal obstruction the elevation seldom occurs before the third day, and usually does not occur until the fifth or sixth day. In Acute Pancreatitis, the elevation is at its height within the first 24 hours, and tends to fall rapidly subsequent to this time.

Other Serum estimations are used in the diagnosis of Pancreatitis, but the Serum Lipase (normal 1-1.5 units) test calls for incubation of the serum for a period of twenty-four hours. This is impractical when an acute abdomen demands early diagnosis.

In the last few years Edmonson and Berne⁹ have shown that the serum calcium level drops to below 9 mgm. % in acute pancreatitis. Their serious cases have shown serum calcium levels below 7 mgm. %, and they feel that levels below this have a very poor prognosis. More recent reports have shown that the level below 7 mgm. % can be present without a fatal termination, but there is no doubt that such levels indicate a very serious prognosis. This fall in serum calcium is explained by the formation of the "tallow-like"

areas of fat necrosis where the calcium of the blood has combined in fatty acids produced by the lipase digestion of fat. A low serum calcium is further confirmatory evidence of a diagnosis of Acute Pancreatitis.

Treatment—The ideal treatment for a case of Acute Pancreatitis is non-operative.

As shown above, morphine and codeine should not be used in the treatment of pain, especially before a definite diagnosis has been made. A rise in Serum Amylase has been shown to follow their parenteral use by many workers, most recently by the Mayo Clinic. Demerol can be used either subcutaneously or intravenously, and in our hands has proved quite adequate for the control of pain. In severe cases, some workers have used intravenous novocaine and other splanchnic blocks. The latter treatment is questionable in the presence of shock. We have used it in only one case. Intramuscular Banthine has recently been used in order to reduce pancreatic secretion. Our experience with this has been limited.

Nasal suction is important for the control of vomiting and for keeping the stomach empty. As pointed out above, the starving animal does not develop pancreatic necrosis when the main pancreatic duct is ligated. The patient is fed, therefore, parenterally, fluid and electrolyte balance being maintained. One must be careful, however, of the amount of glucose used, since a percentage of these patients have diabetes associated with the pancreatitis. If the patient is seriously ill, and glucose is being used in large quantities, blood sugar estimations should be done frequently. If this is impractical, it is wise to give five units of insulin for every 25 gms. of glucose administered.

Heat to the abdomen, either in the form of fomentations or electric cradle, appears to give symptomatic relief.

As stated above, the ideal treatment is conservative. The patient must be watched very carefully, however, for the onset of complications—abscess formation or generalized bacterial peritonitis; haemorrhage, sometimes massive and fatal; occasionally a large hematoma. Pseudo-cyst formation is a comparatively late complication and does not require emergency operative interference.

Following recovery from the acute attack, the patient is placed on a low fat, high carbohydrate, high protein diet (restricted if obesity is present). In our experience cholelithiasis should be treated by cholecystectomy where acute pancreatitis has occurred. Alcohol is interdicted at all times.

The following case reports will illustrate some of the observations made above:

Case I—Acute Pancreatitis associated with Cholecystitis and Cholelithiasis.

Mrs. A. B. S.—Age 67. Grav. VI. Para. VI.

Past History—1938—Hysterectomy. 1949—Intolerance to fats, cabbage, etc. Attack of acute

upper abdominal pain, nausea and vomiting. Admitted to hospital. Non-visualizing gall bladder. Diagnosis—Acute cholecystitis (Serum Amylase not done).

December, 1950—1½ hours after consuming a large meal and some wine, had sudden severe generalized abdominal pain—most marked in epigastrium. Radiation to loins and through to the back. Nausea and vomiting profuse.

T. 100. Pulse 115. Resp. 26. B.P. 160/100. Obesity ++ Perspiration +++ Restless—obvious severe pain.

Abdomen—slight distention. Muscle guarding—no rigidity. Tenderness generalized, more so in epigastrium. No bowel sounds.

Flat plate—1 small dilated loop of bowel.

Urinalysis—Neg. Wbc. 18,500. Polys. 88%.

Serum Amylase—667 units (Somogyi).

Treatment—conservative—Demerol. Nasal Suction. Parenteral fluids—heat. Recovery in 6 days.

Jan. 20, 1951—Three recurrent attacks following discharge from hospital—lasting from 5 hours to 36 hours.

Jan. 24, 1951—Operation—gall bladder thickened—one large and many small stones. Pancreas markedly thickened—indurated. Multiple adhesions. Areas of fat necrosis all about. Cholecystectomy—drainage common bile duct—T-tube remained in 8 weeks. Remained well since on strict diet of low fat.

Case II—Acute Pancreatitis following Ingestion of Alcohol.

Case J. R. D. Male, age 30.

1948—History that while in the Army he had three attacks of acute abdominal pain lasting from 4 to 48 hours. During the first of these an appendectomy was performed. The following attacks were similar to the first. Attacks were precipitated by intake of alcohol—on two occasions only small amounts. No pain or symptoms between attacks.

July 25th—Sunday, at 10 a.m., had one bottle of beer. Within one hour had severe acute generalized abdominal pain, followed by vomiting. Some radiation of pain through to back. No relief. Constipation.

Examination—Temp. 98. Resp. 20, lying still. Pulse 90. Abdominal rigidity. Generalized tenderness, most marked in both upper quadrants. Rebound tenderness present.

Liver dullness intact. Blood pressure 130/70. Silent abdomen. Flat plate of abdomen—negative. No small bowel shadows—no free air. Wbc 21,750. Mature polys. 83. Stabs 11. Lymphs 5.

Diagnosis—Perforated peptic ulcer or acute pancreatitis. Serum Amylase order—delay in performance (Sunday). Operation decided upon in view of uncertainty of diagnosis.

Operation—Blood stained fluid throughout abdominal cavity, especially in the left upper quad-

rant. Pancreas purplish and edematous—lesser sac edematous—areas of fat necrosis in adjacent omentum. Liver, gall bladder and common bile duct normal. Stomach and duodenum normal. Closure of abdomen with 100,000 units of penicillin in situ.

Serum Amylase—1100. In 12 hours—2280 units. Uneventful convalescence.

This patient was unable to take the smallest amounts of alcohol without producing abdominal pain.

Case III—Acute Pancreatitis showing electrocardiograph changes.

Case W. H. H. Male, age 65.

1946—Attack of upper abdominal pain, nausea and vomiting. Attack passed off in 3-4 days without any treatment.

1951, August—Pain in abdomen two hours after eating. Gradual increase in severity until it became excruciating. Started in hypogastrium, moved to and remained stationary in epigastrium. No radiation of pain, vomited 4-5 times—clear fluid and bile.

Temperature —97. Pulse 60, Resp. —20.

Obese elderly man—obvious distress—lies quite still. B.P. 140/80.

Abdomen—tender and rigid across upper abdomen—most marked on the left side. No bowel sounds heard. Remainder—negative.

W.B.C.—13,500, Polys 96%. Urine—trace albumen.

E.K.G. "Picture of L.V. strain with digitalis effect—no diagnostic evidence of infarct as yet."

Serum Amylase—608 units.

Treatment—Bed rest. Intravenous fluids (glucose. Anodynes (Demerol). Antibiotics. Banthine.

Case IV—Acute Pancreatitis followed by Diabetes.

Case A.D. Male, age 50.

May, 1946—Bilateral herniorrhaphy. Uneventful convalescence.

November, 1948—No previous symptoms related to Gastro-intestinal tract. Onset of acute upper abdominal pain, nausea and vomiting—marked weakness. Constipation absolute.

Temperature 99.4. Pulse 64. Resp. 20. Sweating, pallor, moderate shock. B.P. 106/70. No abdominal respiration, guarding and tenderness +++ in upper central abdomen. Remainder negative. Hernial orifices intact. Wbc 13,500. Hb. 120%. Urinalysis (inc. sugar) negative. Flat-plate negative. No free air.

Diagnosis (pre-op)—Perforated Ulcer. (Serum Amylase not done).

Operation—Laparotomy—haemorrhagic effusion in peritoneal cavity. Pancreas purple and hard. Remainder negative. Abdomen closed with drainage. Diagnosis (Post-op)—Haemorrhagic Pancreatitis.

Convalescence—Moderately stormy. Glucose tolerance test prior to discharge—within normal limits. Repeated urinalyses negative for sugar.

Patient not seen for two years—reappeared complaining of recurrent bouts of epigastric pain, anorexia, nausea but no vomiting. Stated that 4 months after previous operation developed jaundice. He was kept in bed for 5 weeks at home. Attacks of pain and dyspepsia as above occurred about every 3 months—lasted 3 to 5 days. No change in color of stool. Recently severe thirst and polyuria.

Glucose tolerance test:

Fasting	287 mgms.
½ hour	373 mgms.
1 hour	400 mgms.
2 hours	400 mgms.
3 hours	390 mgms.

Urine—6.25% sugar—remainder negative.

Stool examination—normal neutral fat content. No evidence of pancreatic inanition.

With control of diabetes patient has remained well. Recently undergone disc operation.

Case V—Acute Pancreatitis with Equivocal Serum Amylase Estimation, Necessitating Laparotomy.

Case A.L. Male, age 44.

April, 1948—Perforated duodenal ulcer—operation.

May, 1950—Sub-total gastrectomy—left hospital 6 days afterwards (Flood).

June, 1950—Severe abdominal pain in epigastrium—radiating upwards to chest. Nausea and vomiting, several recurrent episodes. Several episodes of sweating and chills. Pain increased in severity and 6 hours after onset (when first seen) was also radiating into back, and intense in right lower quadrant.

Sweating, occasional shiver. Cyanotic tinge to lips and ears (Interne's notes).

Respirations shallow and rapid. Temperature 98. Pulse 90.

Resp. 28. B.P. 150/80.

Abdomen rigid—tenderness most marked in epigastrium and R.L.Q. Dullness in epigastrium. No bowel sounds. Remainder negative. Wbc. 16,500. Hb. 90%. Urinalysis—½% sugar. Serum Amylase—163 units. Flat-plate—no free air—no distended loops.

Laparotomy—Moderate amount soupy (consomme) fluid in peritoneal cavity—especially R.L.Q. Pancreas inflamed and indurated—tissues over it showed marked edema—the posterior parietal peritoneum edematous +++ especially along right lateral gutter. Small tallow like spots over lesser sac.

Gastro-jejunostomy and duodenal stump appeared normal.

Biopsy of portion of lesser omentum.

Abdomen closed in layers without drainage.

Pathological report—Soft yellow fatty tissue 0.5 cm. in diameter. Micro: Marked fat necrosis.

Uneventful convalescence.

Recurrent Pancreatitis—Recurrent pancreatitis is also uncommon but is being diagnosed much more frequently since attention has been called to it by numerous authorities. The central clinical feature is recurrent seizures of upper abdominal pain of varying frequency, severity and duration. Usually the pain is present for a few days, but each attack may be as severe as a single case of acute pancreatitis. The pain is usually referred through to the back, to the left abdomen and to the chest. It may be relieved by sitting in a position of complete flexion, and aggravated by recumbency. As in acute pancreatitis, vomiting may be profuse, but seldom relieves the pain.

Recurrent pancreatitis is frequently confused with cholecystitis. Although cholecystitis and cholelithiasis are frequently present in these individuals, Gambill¹⁰ of Mayo Clinic points out that this does not mean that these conditions are responsible for the pancreatitis. Proof is evidenced by the fact that in a number of these patients in whom the gall bladder is removed because of cholelithiasis, the dyspepsia, the pain, and the gastro-intestinal upsets persist. Every surgeon has seen cases in which a gall bladder full of stones has been removed, and acute abdominal episodes have recurred time and again, usually without jaundice. These cases are very frequently suffering from recurrent pancreatitis, and exploration of the common bile duct for residual stones is disappointing. In such a case frequent Serum Amylase determinations must be done, since it may be that on only one occasion will you find the rise in the Serum Amylase which will tend to confirm the diagnosis. Unfortunately, if the attacks continue at very frequent intervals, the Serum Amylase estimation may tend to fall because more and more of the pancreas is being destroyed.

Even with the exclusion of all other conditions likely to cause recurrent abdominal pain, the diagnosis of recurrent pancreatitis is very difficult. Satisfactory treatment is even more difficult. Prolonged biliary drainage, using a T-tube in the common duct for a period of six to eight months has been of value in some cases. Doubelay and Mulholland¹¹ of New York have advocated cutting the sphincter of Oddi in order to prevent spasm and obstruction to pancreatic flow. An instrument they had devised for performing this task via the common bile duct has now been discarded, and trans-duodenal approach is being used. They have treated some 80 cases in this manner, but it is too early to assess the final result as yet. Sympathectomy, either unilateral or bilateral, including splanchnic resection, has not been successful in the hands of Cattell¹², of the Lahey Clinic, Boston. He has advocated partial pancreatectomy, or even

total pancreatectomy where indicated. In the face of the destruction of tissue and the distortion of the normal architecture of the abdomen as produced by recurrent pancreatitis, these are not easy tasks. More recently, transplantation of the main pancreatic duct into the jejunum has been practised. The object here is again to prevent regurgitation of bile and obstruction to the flow of pancreatic ferments. Hereto sufficient time has not elapsed to evaluate this procedure. Recently Colp and Richman have described treating recurrent Pancreatitis by sub total gastrectomy and vagotomy. Hereto, sufficient time has not elapsed for proper evaluation of this method. The following cases will illustrate the difficulties involved in this problem:

Case VI—Recurrent Acute Pancreatitis in a Diabetic Patient.

Case A. B. Female, age 67.

1917—Patient developed sudden severe abdominal pain. Emergency operation in the Eastern United States. Preoperatively told it was her gall bladder. Postoperatively informed that gall bladder normal. Appendicectomy carried out.

1949—Following a meal on a train developed severe abdominal pain. Removed to hospital—treated conservatively—At this time was discovered to have diabetes.

1950—Acute attack of abdominal pain—in epigastrium—radiating through to back and into left loin. Self-treatment of heat and starvation—4 days.

December, 1951—Similar attack. Hospitalized—Serum Amylase—536 units. Treated conservatively. Uneventful recovery. Non-visualizing gall bladder.

February, 1952—Sudden severe epigastric pain following ingestion of one egg. Nausea and vomiting severe. Weakness and perspiration marked.

Examination: Temperature 99.4. Pulse 110 B.P. 150/75.

W.B.C.—15,400 Urinalysis—Sugar 2%—remainder negative. Serum Amylase—640 units.

Responded to nasal suction, parenteral fluids antibiotics and demerol for pain.

Investigation after recovery from acute attack—X-ray—non-visualizing gall bladder. Barium series—negative.

March, 1952 — Operation — Laparotomy — Pancreas thickened and indurated—lobules easily distinguishable. Much scarring and adhesions to neighboring structures.

Stomach and duodenum normal.

Gall bladder surrounded with adhesions—thickened walls. No calculi felt. Common bile duct thickened and about $\frac{3}{8}$ " wide.

Cholecystectomy and drainage C.B.D. effected—T-tube used latter. Probe passed into duodenum via C.B.D. No apparent obstruction.

Biopsy from pancreas unfortunately lost.

Path. report g.b.—Micro: Typical subacute inflammation with marked plasma cell infiltration. Several areas of acute inflammation. There is a definite pericholecystitis.

Common duct drainage will be maintained for 6 months.

Case VII—Recurrent Pancreatitis.

Case M.M. Male, age 29.

Past History—In Fall of 1949 had total colectomy with right iliac ileostomy—for multiple polyposis of colon with carcinomatous changes in several polyps.

February, 1950—Had been back at work for three months—sudden attack. Acute severe upper abdominal pain vomiting—fever—perspiration.

Examination—Temperature 100. Pulse 110. Resp. 26. Epigastric tenderness—slight rigidity. Blood pressure 110/70. Admitted to hospital. W.B.C. 13,180. E.K.C. negative. Acute gastritis.

Diagnosis—Acute gastritis. Within 48 hours subsided—returned to work within the week. Barium series, gall bladder visualization negative.

May, 1950—Recurrent acute episode—mild shock. Serum amylase—558 units. 48 hours later—325 units. For a period of one week during a period of convalescence, the ileostomy functioned very little but responded to irrigations. He was placed on a low fat, high carbohydrate, high protein diet—alcohol interdicted.

June, 1950—Attacks of pain recurred and kept on recurring. Serum amylase—several—range, 300 to 400 units. At this time a mass could be palpated in the left upper quadrant. A barium series showed the stomach and duodenum pushed forward. Splanchnic Block (Dr. M. Bennett) relieved pain 36 hours.

Operation—Abdominal Cavity—right upper quadrant filled with yellowish watery fluid, and here the normal architecture was completely distorted and unrecognizable, due to dense adhesions. Massive adhesions—lesser sac bulging with enlarged indurated pancreas—left of this area occupied by large pseudo cyst, grayish wall—contained dirty brownish fluid and greenish material with yellow areas spotting it. Cyst—drained, marsupialized and packed.

Pathological Report:

Gross—Soft greenish, yellow material.

Micro—Soft green mottled tissues with yellowish flecks. Thrombosed and partially recognizable blood vessels and surrounding autolyzed tissues. The yellow areas show fat necrosis.

Two weeks following—Serum Amylase, 210 units. Patient appeared slightly improved.

Four weeks later—sudden attack—massive intra-abdominal haemorrhage—died within a few minutes.

Summary

Although pancreatitis is not very common, it is a condition which must be kept in mind in every acute abdominal emergency. The diagnosis can be very difficult, and even with the aid of the Serum Amylase test, can sometimes be made only with laparotomy. Treatment is at the present time inexact, but in most cases of acute pancreatitis, is successful. In recurrent pancreatitis, treatment is still in a state of flux.

The purpose of the above presentation is to raise the index of suspicion regarding this condition.

References

1. Archibald, E. S.: The experimental production of Pancreatitis in animals as the result of the resistance of the common duct sphincter. S.G.O., V. 28: 528, 1919.
2. Millbourne, E.: On excretory ducts of pancreas in man with special reference to their relations to each other, to the common bile duct and to the duodenum. Radiological and anatomical study. Acta Anat., 9: 1-34, 1950.
3. Rich, A. R. and Duff, G.: Production of hyaline arteriosclerosis and arteriolonecrosis by means of proteolytic enzymes. Bulletin—Johns Hopkins Hospital, 61: 63. 70. July, 1937.
4. Egghal.
5. Howell, C. W. and Bergh: Pancreatic duct filling during cholangiography—its effect upon serum amylase levels. Gastroenterology. 16. 309. October, 1950.
6. Moynihan, Sir B.: Annals of Surgery. 31. 132. 1925.
7. Bockus, H.: Post graduate Gastroenterology, 1950, Page 356.
8. Gottesman, J., Costen, D. and Beller, A. J.: Proc. Soc. Exper. Biology & Med. 49. 365. 1942. J.A.M.A., 123: 892, 1943.
9. Edmonson, H. and Burne, C. J.: S.G.O. 79: 241. 1944.
10. Gambill, E. E.: Chronic relapsing pancreatitis, 29 cases gastroenterology. 6. 376. 408. May, 1946. Pancreatic calcification proceedings Staff meetings of the Mayo Clinic. 24. 434. 17th Aug., 1949.
11. Doubilet, H. and Mulholland, J. H.: Recurrent acute pancreatitis observations on etiology and surgical treatment. Annals of Surgery. 128. 609. October, 1948. Results of sphincterotomy in pancreatitis—the Journal of Mount Sinai Hospital. Page 458. March-April, 1951.
12. Colp, R. and Richman, A.: Chronic relapsing pancreatitis—Annals of Surgery. 131, page 145. 158. February, 1950.

Obstetrics

The Physiology of Reproduction The Endocrine Glands and Their Secretions

From the Faculty of Post-Graduate Studies of the Winnipeg
General Hospital in the Department of Obstetrics and
Gynaecology.

Section "B" No. 1

Describe the Development, Anomalies, Course
and Relations of the Female Ureter.

Discuss Its Importance in
Pelvic Surgery

Margaret Ledingham, M.D.

The development of the excretory system is intimately associated with the development of the reproductive system. Both systems arise from the mesoderm.

The intra-embryonic mesoderm separates into three parts (fig. 1):

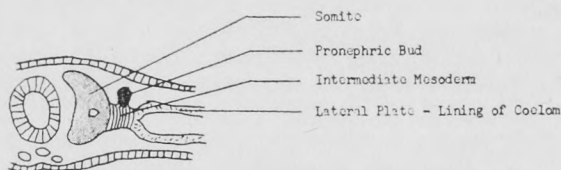


Fig. 1 - Showing Division of Intra-embryonic Mesoderm into 3 parts.

1. A medial mass which becomes segmented to form the somites;
2. A lateral plate which remains unsegmented and forms the lining of the coelom.
3. A segmental junctional region, the intermediate mesoderm, lying between and connecting these two parts. This intermediate mass, for the greater part of its length, gives way to a nephrogenic cord from which most of the excretory system develops.

Vertebrates have made three distinct experiments in the production of kidneys—the pronephros, mesonephros and metanephros (fig. 2). These three nephric systems overlap each other in position and time of their development both in phylogeny and ontogeny.

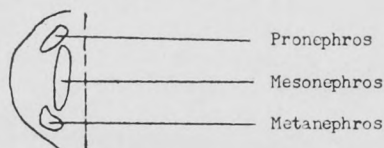


Fig. 2 - Showing the 3 Nephric Systems of Vertebrates

In humans the pronephros exists mainly in the future cervical region. This mass becomes divided into a number of tubules which turn caudally to form a longitudinal pronephric duct

which reaches the cloaca in embryos of about four weeks (fig. 3). This pronephros does not function as an excretory organ.

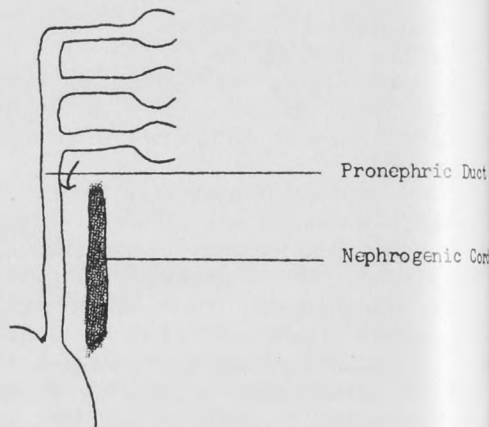


Fig. 3 - Showing Development of the Pronephros

The mesonephric tubules appear later than the pronephric tubules, but before the latter have degenerated. They arise from the caudal continuation of the nephrogenic cord from the sixth cervical to the third lumbar segments (fig. 4). These tubules unite with the existing pronephric duct which is now called the mesonephric duct. These in turn degenerate in cranio-caudal direction. The mesonephros of the female persists as the vestigial structures, the epoophoron and paroophoron.

The metanephros develops from the caudal part of the nephrogenic cord and is initially at the level of the first and second sacral segments. It becomes the excretory part of the adult kidney.

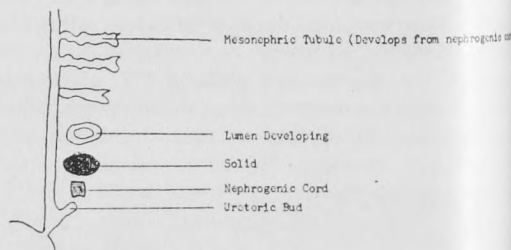


Fig. 4 - Showing Development of the Mesonephros.

At about four weeks a hollow outgrowth, the ureteric bud, arises from the postero-medial wall of the mesonephric duct near its junction with the cloaca (fig. 4). The cranial end of the ureteric bud enlarges and comes into contact with the metanephrogenic tissue of the lower quarter of the nephrogenic cord (fig. 5). As it grows it moves still farther cranial-wards and its enlarged end changes its form and produces in turn the metanephros.

calyces, minor calyces and collecting tubules. The metanephrogenic cap becomes the glomeruli and convoluted tubules of the permanent kidney. During its development the metanephros undergoes a change of position cranial-wards which is known as the ascent of the kidney. After the five-week (five mm.) stage the caudal portion of the mesonephric duct becomes absorbed into the wall of the urogenital sinus. This goes on until the mesonephric duct and the ureter open separately into the urogenital sinus. As development proceeds the ureteric orifices move progressively cranially and laterally in relationship to the mesonephric openings which remain close together (fig. 6). The movement of the ureteric orifices can be largely explained by the fact that the lateral part of the bladder wall grows more rapidly than its medial portion.

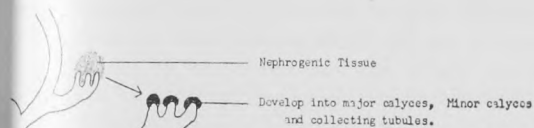


Fig. 5 - Showing Development of the Ureteric Bud.

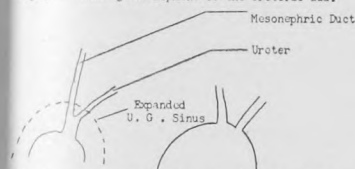


Fig. 6 - Showing the Development of the Final Relations of Ureter and Meson. Duct.

Having considered the complex embryological development of the kidney and ureter it is easier to understand why ureteral anomalies are so common. The anomalies may be divided into four main groups:

1. Anomalies in number.
2. Anomalies of position.
3. Anomalies of form and lumen.
4. Anomalies of termination.

There are many varieties of these but only a few of the commoner ones will be mentioned.

Anomalies in number are the most frequent type. These occur as the result of premature or exaggerated splitting of the ureteric bud. The commonest type is a ureter with a double renal pelvis, they are found in 1 to 4% of the population. Bilateral bifid ureters are not as common but are not rare.

Examples of anomalies of position are crossed ureters and a ureter running to a congenital pelvic kidney.

Anomalies of form or lumen occur as congenital valves, congenital stricture and diverticula.

As an anomaly of termination, ectopic ureteral openings are not uncommon. The opening may be into the urethra, vestibule of the vagina, vagina, oviducts, uterus, rectum, or into the bladder at an

abnormal site. These are usually manifested by incontinence or pyuria.

According to the text books the course and relations of the ureters in the female are straight forward and simple.

The ureter emerges from the hilum of the kidney and runs vertically downward on the psoas muscle in line with the tips of the lumbar transverse processes and about 1½ inches from the median plane (see Grant's Atlas, fig. 103). In its course it shows normally three slight constrictions one at its upper end; one at the pelvic brim and one as it pierces the bladder wall. The right ureter is in close relation to the inferior vena cava. Its proximal portion lies behind the descending and transverse parts of the duodenum and just before it enters the pelvis it is crossed by the root of the mesentery. As the left ureter enters the pelvis it is crossed by the pelvic mesocolon. On both sides the ureters are closely related to the posterior parietal peritoneum, the colic and ovarian arteries alone intervening.

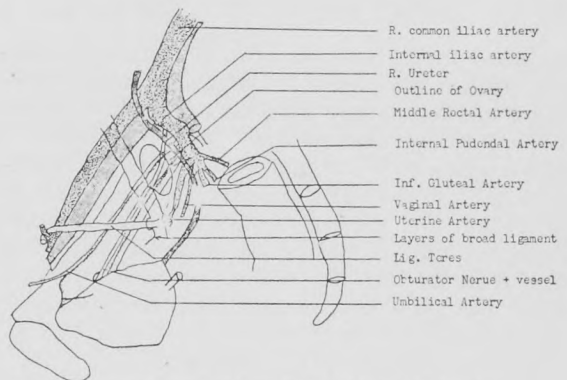


Fig. 7 - Showing Relations of Pelvic Portion of Ureter. (Jamieson)

The pelvic portion of each ureter describes in its downward course a curve that is concave forward and medialwards (fig. 7). Above, it lies on the lateral pelvic wall along the anterior border of the greater sciatic notch, where it forms the posterior border of the ovarian fossa; it then crosses the medial aspect of the hypogastric and umbilical (obliterated hypogastric) arteries and the obturator vessels and nerves. At the level of the ischial spine the ureter turns inward upon the pelvic floor, surrounded by the venous tributaries of the vesical plexus; it next traverses the lowest portion of the broad ligament surrounded by the uterine venous plexus and accompanied for a distance of 2.5 cms. by the uterine artery. It passes the supra-vaginal part of the cervix about 1.5 and 2 cms. lateral to it, to reach the interval between the vagina and the bladder. Continuing the inward course, it ends by piercing the posterior bladder wall obliquely. It does this about 2.5 cms. below the level of the external os. On the surface of the bladder the ureters are approximately 5 cms. apart.

The uterine artery after having accompanied the ureter for 2.5 cms. crosses it anteriorly and ascends between the layers of the broad ligament.

As shown by Brash the relation of the last portion of the ureter to the vagina is variable. His method of investigation was to remove the pelvic contents entire, fix in formalin and open the vagina from behind and the bladder from the front. The two ureteral openings and the internal urethral orifices were then marked by pins.

With the vagina and bladder symmetrically related to each other the portion of the ureter in front of the vagina is equal on the two sides (fig. 8). However, asymmetry is the rule. This is es-

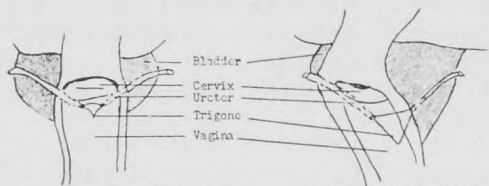


Fig. 8 - Showing Relation of the Ureter to Vagina when vagina and bladder are symmetrically related to each other. (Brash)



Fig. 9 - Showing Relation of the Ureter to Vagina when vagina and bladder are asymmetrically related to each other. (Brash)

established in the later months of foetal life while the bladder and uterus are still abdominal organs and is due to pressure from the colon as it becomes distended by menconium from seventh to nine months. So in the majority of cases the fundus is inclined to the right, the cervix correspondingly to the left and the body rotates so that the right Fallopian tube is nearer the anterior abdominal wall than the left. In marked asymmetry (fig. 9) there may be a long prevaginal portion of ureter on one side and on the other the ureter will not be in close relation to the vagina at all.

The vascular supply of the ureter is interesting (fig. 10). It is supplied chiefly by one or more

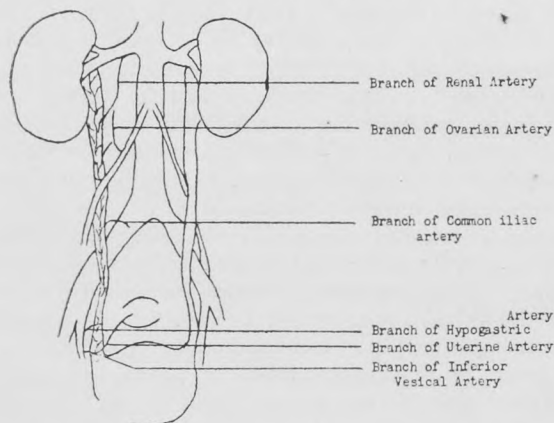


Fig. 10 - Showing Arterial Blood Supply of Ureter. (Michaels)

fairly large arteries which may arise from the distal abdominal aorta, common iliac or internal iliac arteries. These ureteral arteries may be

single, double or triple. On reaching the ureter, they divide into long ascending and descending branches which anastomose freely above with short branches from the renal and occasionally the ovarian arteries and below with short branches from the vesical arteries and the uterine arteries. These longitudinal branches are loosely connected to the ureter and are contained within an adipose fibrous sheet. Secondary branches given off from these primary arteries arborize over the ureter for its entire length and anastomose freely with each other above and below and form a compact peri-ureteral anastomosis from the renal pelvis to the bladder. A third set of arteries is given off from those vessels around the ureter and these in turn pierce the muscularis of the ureter to supply the wall. In the upper part of the ureter the blood supply (from the renal, aorta, common iliac and hypogastric) enters its medial side and in the lower part its lateral side. The longitudinal branches may be readily damaged in either dissection of the ureter from the parametrium or during pelvic lymphadenopathy so in any surgery it is important to leave the peri ureteral tissues undisturbed, particularly on the medial side in its upper portion and on the lateral side in its lower portion.

In pelvic surgery the ureter is important from the point of view of injury. This may occur in one of four places:

1. At the infundibulo-pelvic ligament.
2. In the region of the uterine arteries.
3. At any place between these two points where a neoplastic or inflammatory mass may be adherent to it.
4. Where the ureter lies between the anterior vaginal wall and the base of the bladder.

The infundibulo-pelvic ligament is the least frequent site of injury but when the ligament is shortened by a large ovarian or parovarian cyst or a large tubo-ovarian abscess the clamp placed on the ovarian vessels may include the ureter.

Injury to the ureter in the region of the uterine vessels is avoided if the vessels are clamped close to the uterus. Should the clamps or ligatures slip and re-clamping be attempted quickly and in the presence of profuse bleeding there is great danger of injury to the ureter.

At any place between these two points, freeing of a large tumor or mass from between the layers of the broad ligament may endanger the ureter. In such cases the ureter should be identified and exposed, but without injury to the peri-ureteral tissues.

Injury to the part of the ureter between the vagina and bladder occurs in hysterectomies and is six times as common in abdominal as in vaginal hysterectomies. To avoid this the bladder is pushed down well on the vaginal wall, first in the median line and then laterally. As the base of the bladder is separated laterally on each side, it

roll of tissue containing the ureter comes into view. This ureteral roll of tissue is identified by its location and its relation to the broad ligament and the bladder base and by the fact that it contains a firm cord. Until the ureteral roll on each side is definitely identified the ureter is not safe. Upward traction on the uterus increases the distance between the ureters and cervix.

In radiation, packing of the vagina pushes the uterus and cervix upwards and backwards away from the ureters which are fixed in their beds. Diehl has shown that, by packing, the distance from the source of radiation to the most vulnerable portion of the ureter averages about 5.5 cms.,

and may be as much as 8.5 cms. If packing is effective, the radiation dose is as little as 18 to 25 mg. hrs. and more than 75 mg. hrs. are necessary to give noticeable effects.

References

1. Curtis, A. H.: Text Book of Gynecology.
2. Arey, L. B.: Developmental Anatomy, 1942.
3. Hamilton, W. J., Boyd, J. D., Mossman, H. W.: Human Embryology, 1945.
4. Crossen, H. S. and Crossen, R. V.: Operative Gynecology, 1948.
5. Brash, James C.: The Relation of the Ureters to the Vagina, B.M.J., Oct. 28, 1922.
6. Diehl, W. K. and Hundley, J. M.: Urinary Tract Changes in Cervical Carcinoma, S.G.O., 87: 705, Dec., 1948.
7. Michaels, John P.: Study of Ureteral Blood Supply and Its Bearing on Necrosis of the Ureter following the Wertheim Operation. S.G.O., 86: 136, Jan., 1948.
8. Dr. I. M. Thompson's Anatomy Lectures.

Psychiatry

Treatment in the Psychoses of the Aged*

R. H. Tavener, M.D.

It is no new statement to say that our population is growing older rapidly. In Manitoba, there has been an increase of life span by approximately 5 years since 1930. This has meant an increase of population over the age of 60, from 49,000 in 1931 to 97,000 in 1950, or a real increase of 48,000 in 20 years.

This expanding number is swinging more and more emphasis toward the problems of medical care for this group; which, as well as suffering from diseases common to all, also falls heir to an increasing number of afflictions due to their own lessening bodily resistance and to the ravages of time. Important members of the latter group are the Senile and Arteriosclerotic brain disorders with which this paper will deal.

Quoting from the records of the Selkirk Mental Hospital, the percentage of admissions reveals the magnitude of the problem. In 1941 the per cent falling in this diagnostic group was 13%. In 1951 it was 21%. This increase is in accordance with our advancing population age and can be expected to grow proportionally as the horizon of longevity is widened.

With an expanding problem of this nature before us, it would appear that an assessment of our armamentarium for combating it would be in order. In order to do this, the treatments available will be outlined, briefly, and results related to a series of 55 cases admitted to the Selkirk Mental Hospital over 1950-51.

*From a paper presented to the Annual Meeting of the Psychiatric Section of the Manitoba Medical Association, at Selkirk, February 20, 1952.

†Therapy with vasodilators is under question from many sources due to the lack of experimental evidence as to the ability of these drugs to cause dilatation in deeper blood vessels.

At present our therapy falls into five groups:

- (a) General.
- (b) Dietary.
- (c) Vasodilators.
- (d) Electro-shock therapy (E.S.T.)
- (e) Psychotherapy.

General care of these patients is non-specific and symptomatic. It includes the use of sedatives, stimulants, occupational and recreational therapy, the restraining influence of hospitalization and the application of correct nursing principles. In the realm of sedation, the writer leans toward paraldehyde, rather than barbiturates, because of the tendency for accumulation of the latter in elderly bodies; however, phenobarb, if used in small doses, is valuable for prolonged sedative action. Stimulants such as amphetamine sulphate have not given the results one might expect in depressed cases.

Dietary idiosyncrasies are among the commonest of the hall-marks of aging. Based on mechanical difficulties of poor teeth; decreased activity and therefore less appetite and desire for food; the force of dietary habit and reluctance to change; and later, disinterest stemming from confusion—the diet becomes increasingly less satisfactory. Anyone seeing the general run of admissions to hospital in the older age group can readily attest to their malnourishment; especially in that portion that has been cared for by well meaning relatives long after they showed signs of needing medical care.

It is not always a simple matter to change this state, but if care is given to selection of foods; caloric intake; fluids; and a high vitamin content the physical state can usually be improved. With this comes a commensurate improvement of mental symptoms. Diet is such a common thing that unless special care is taken, it may easily be overlooked. It should always be the basis for

rational treatment and sometimes is all that is necessary.

In combination with the above, the use of vasodilators may be of assistance†. The rationale is to dilate the cerebral vessels and allow a better blood supply and therefore a greater amount of available oxygen. This counteracts the relative anoxia resulting from sclerosis of the intracranial vessels. Most commonly used at present, is Nicotinic Acid and treatment consists of obtaining a flush reaction in the patient and then calibrating a maintenance dose at, or slightly below, this level. Dosage for this may range from 150 to 600 mgm. daily; given in divided doses, e.g., 50 mgm. T.I.D.—each dose approximating a flush. The writer has only a small series of cases wherein this method has been employed, but from these, it appears that there is a mental improvement in the majority.

It is apparent that this treatment must eventually fail as the vessels become less and less able to respond due to hardening. However, if it will allow a clear mentality until the eventual vascular death, it has served a useful purpose. There appears to be little or no evidence that vascular accidents are hastened or initiated with the drug, as used.

Electro shock therapy, in this group, is used on the same basis as in other types of psychoses. In brief, in depressed or confused states, and in overactivity and/or resistiveness leading from these and from hallucinations or delusional ideas. The effect gained is probably partly due to an increased blood supply to the brain in the post-shock phase and partly to the as yet unexplained manner in which E.S.T. benefits the younger case.

Age, per se, is no contraindication to this therapy. An evaluation of the patient's physical condition is the deciding criterion. Signs of heart failure or a definite suspicion of impending failure, are deterring. As coronary occlusion is a common method of death in an induced convulsion (i.e., common among the causes of death—death itself being uncommon) history of angina or previous heart disease must be carefully assessed, although usually a calculated risk can be taken with impunity. General debility of an extreme nature, with the concomitant danger of respiratory failure, is not favorable. Hypertension is not considered a contraindication as the blood pressure is apparently lowered rather than raised during, and certainly immediately after, the convulsion, and remains lowered for some time thereafter.

In the writer's opinion, premedication with atropine gr. 1/100 to gr. 1/50 is valuable in cases where there is danger from too much cardiac slowing. It is also believed that electro-stimulation following the usual convulsive treatment is a definite improvement. Respiration can be stimu-

lated readily and therefore the period of anoxia shortened. Also, by varying the electrode position, anxiety and confusion can be reduced; with the patient breathing but amnesic for the treatment period.

Psychotherapy is based on the fact that emotional problems are commonly found along with the organic features. This aspect follows the usual lines where definite emotional factors are present. Where these are not clear cut, it follows the line of developing rapport with the patient to gain co-operation in other forms of treatment.

To assess the results of the above treatment, 55 consecutive cases diagnosed as Psychosis with Cerebral Arteriosclerosis, or as Senile Psychosis, were reviewed. These were admissions over 1950-51, and included 33 males and 22 females. Of these, 15 died while in hospital, 11 male and 4 female, and were excluded from the series to simplify the evaluation of results. There remained a total of 40 cases, 22 males and 18 females included. In reviewing the results of treatment, no significant difference was noted between sexes and therefore the tables included represent the combined groups.

As an interesting aside, it was noted that the common method of death was a cerebral vascular accident or coronary occlusion—both on the basis of arteriosclerotic disease. Deaths were divided as to 9 Senile and 6 Arteriosclerotic and the above mode held true for both groups. No death was attributed to treatment.

For the purpose of classification, treatment was divided as:

- (a) Those receiving general supportive therapy, diet and psychotherapy.—Type A.
- (b) Those receiving the above and vasodilators.—Type B.
- (c) Those receiving (a) and E.S.T.—Type C.
- (d) Those receiving (a) and E.S.T. and vasodilators.—Type D.

Results of treatment were classified as:

- (a) Unimproved.
- (b) Slight improvement—not in condition to admit just outside of hospital.
- (c) Good improvement—including cases that have improved sufficiently to be probated (8) and those whom we feel could be, if proper environment and physical care was available.

On this basis:

(a) In the Senile group, 13 or 76% made some improvement with 6 or 36% in the "good" group. A reference to the accompanying tables shows that those on vasodilators were proportionally improved more than on "A" alone and those with the addition of E.S.T. were again higher.

(b) In the Arteriosclerotic group, 16 or 70% showed some improvement with 12 (52%) of these in the "good" group. The tables indicate the

same but a much more marked trend to betterment on dilators and E.S.T.

Thus it appears that even though our present methods are inadequate, one-third of the Senile group and half of the Arteriosclerotic group could be released from hospital if the proper home environment or if care in a competent nursing home with consultant medical staff to maintain their present condition, were available.

The series as reviewed, is too small to make definite assertions but it appears that more and earlier use of vasodilators and E.S.T. is indicated in the treatment of these cases. It is suggested that with widespread use of present therapy, especially at the level of the family doctor—alone or in consultation with a psychiatrist—that many old people could be maintained at home, at a reasonable level of mental acuity. Also it is suggested that with similarly more widespread use on Out-Patient or hospital treatment, more cases may be returned to their homes after a shorter period of institutionalization. The third suggestion which arises, is that there is a definite need for some form of nursing home to care for these people who cannot for various reasons, return home, but no longer need mental hospital care.

Summary

Available treatment for the Senile and Arteriosclerotic Psychosis was reviewed briefly; related to a series of forty treated cases. Although present methods are inadequate, it is felt that more widespread use could lead to better results and sug-

gestions are made as to the improvement of the present state.

References

1. Granick: Quarterly Review of Psychiatry and Neurology, Jan., 1951, p. 10, "Studies in Psychopathology in Later Maturity."
2. Houge: Q.R.P.N., April, 1951, p. 98, "Problems Associated with Senile Dementia."
3. Gregory: C.M.A.J., Jan., 1952, p. 13, "Thiamin in Neuropsychiatry."
4. Himler: J.A.M.A., Dec., 1951, p. 1330, "Psychiatric Aspects of Aging."
5. Alexander: Am. J. Psychiat., 107-241-50, Oct., 1950, "Nonconvulsive Electric Stimulation Therapy."
6. Solomon, C.: Q.R.P.N., April, 1949, "Treatment of Psychoses in Old Age."

Senile

Tx	Good		Unimproved	Total
	Improvement	Slight Improvement		
A	4	4	3	11
B	-	1	-	1
C	2	1	-	3
D	-	1	1	2
Total Treated				17
Total "Good"				6
Total Probated				2

Arteriosclerotic

Tx	Good		None	Total
	Improvement	Slight Improvement		
A	5	4	6	15
B	4	-	1	5
C	2	-	-	2
D	1	-	-	1
Total Treated				23
Total "Good"				12
Total Probated				6

Total (S. and A.)

Tx	Good		None	Total
	Improvement	Slight Improvement		
A	9	8	9	26
B	4	1	1	6
C	4	1	-	5
D	1	1	1	3
Total Treated				40
Total "Good"				18
Total Probated				8

Case Report

Ervin H. Brotman

A four-year-old child had shed the nails of the great toes three times in the past year and was brought in for examination. There was no evidence of developmental deformity nor of systemic disease. The nail beds were atrophic with absence of dermatitis or inflammation. The history was revealing.

In her attempt to outfit the child with carefully fitted shoes the mother would shop in several stores and at each place a minimum of two exposures would be carried out using the fluoroscope machine. This round of the stores would be repeated four times a year. There is a distinct possibility that this patient suffered from over-exposure to radiation in the affected toes.

Clinical evidence is accumulating that the epiphyses are especially sensitive to radiation

even in the absence of skin damage. Until shoe-fitting fluoroscopes are proven of value their use, at least in the growing child, should not be encouraged.

St. Vitus

According to Butler (Lives of the Saints) Vitus was a Sicilian boy who was made a Christian by his nurse, and, subsequently fleeing from a pagan father's wrath into Italy, fell a martyr under the sweeping persecution of Diocletian. Somehow a chapel near Ulm was dedicated to him, and to this chapel came annually some women who "laboured under a nervous or hysterical affection compelling them to violent motion." This ailment came to be called "St. Vitus Dance" and probably included, originally ailments other than that which we now call chorea—a name which is itself derived from the Greek word meaning dance. The traditional date of his martyrdom is June 15th.

Clinico-Pathological Conference

Deer Lodge Hospital

Multiple Sclerosis

The case presented today is offered not entirely as a diagnostic problem but rather as an example of the natural history of multiple sclerosis, from which it is hoped, considerable interesting discussion may be stimulated and our opinions integrated.

A thirty-year-old man was enlisted as Category "A" in the Army, and served for five months in Canada only in 1941. The only medical past history was treatment for what was diagnosed as typical sacroiliac strain in 1940, caused when he slipped while lifting a large carpet.

Following enlistment, he continued to have periodic bouts of back pain and was unable to stand up to route marching or other strenuous activity. A diagnosis of Herniated Nucleus Pulposus of the 12th Thoracic Vertebra was made, and he was discharged because of inability to meet required military physical standards.

On claiming a service-aggravated pension for his back, three months post-discharge, he was seen by a Pension Medical Examiner who noted, "This man speaks very slowly; complains of pain in back," and requested neurological consultation. The Neurologist elicited the history of slowing of speech over the previous four months. The slowing was observed, apparently due to difficulty in enunciation. "He says he knows just what he wants to say and he knows the word needed, but has to take pains in getting it out. The smooth semi-automatic mechanism of speech is impaired."

On examination, some instability in standing, nystagmus on directing the gaze to the right or left, marked bitemporal pallor of the discs, impaired fine movements in the left hand with positive Wartenburg, absent abdominal reflexes, and accentuated deep reflexes were noted. The emotions were inclined to explosiveness. The diagnosis of Disseminated Sclerosis was beyond question, and the opinion was expressed that the condition must have been present a considerable time, even though the onset of speech disturbance was relatively recent.

In 1942, progression of the disease is best brought out by enumerating the man's complaints when brought in for Pension's examinations:

1. "My back is sore and painful every day, more so in the mornings."
2. "My speech is slow and I have to speak carefully. I have the same trouble in writing; I am slow and I am not sure where my hand is going to go, it gets jerky. I have to speak and write deliberately."

3. "I cannot focus my eyes very long—the print gets jumpy and all runs together."

4. "My hands are getting clumsy and I spill things at the table. My fingers tingle sometimes."

5. "When swallowing liquids, it seems to go down the wrong way, and I cough and choke."

6. "My walking is unsteady, and I don't know where my foot is going to go."

By 1944, while on arsenic therapy without acute exacerbation or remission, he was now confined to a wheelchair, and developed difficulty in micturition and defaecation.

In 1948 he was unable to feed himself because of the marked intention tremor, and due to dysphagia, required tube feedings. He had several respiratory episodes which were considered, no doubt, due to the aspiration of food particles. He was totally bed-ridden and required tidal drainage for his bladder.

He died in November, 1949, having failed to respond to treatment of acute fulminating bronchopneumonia.

Pertinent Autopsy Findings

Macroscopic:

The lungs showed the expected bacterial bronchopneumonic consolidation, and in addition showed scattered pale, greasy areas on the cut surface which suggested lipid pneumonia. (Confirmed histologically).

The urinary bladder wall was thickened and oedematous, and the cavity contained three calculi.

Microscopic:

Section of the spinal cord at different levels show areas of degeneration and gliosis, particularly in the antero-lateral tracts.

Sections of the pons and mid-brain showed widespread, patchy areas of degeneration, involving both the grey and white matter.

Section of the caudate nucleus showed diffusely scattered areas of gliosis and degeneration.

Autopsy Diagnoses:

- Multiple Sclerosis.
- Terminal Bronchopneumonia.
- Lipoid Pneumonia.
- Chronic Cystitis with calculi.

It is interesting to note that this patient had dysphagia requiring tube feeding. Customarily in this hospital, up to the time of this man's death, liquid petrolatum was used as a tube lubricant, and he had also received liquid petrolatum for laxative purposes over a prolonged period.

Topics Discussed:

1. Multiple Sclerosis.
2. Lipoid Pneumonia.

Multiple Sclerosis

1. History:

The syndrome (or disease?) of Multiple Sclerosis has been separated from the conglomeration of spinal paraplegias for only about the past hundred years. Cruveilhier in France in 1835 hinted at the pathology and referred to a clinical example ("induration of the cord with paraplegia"). Charcot in 1868 clarified the picture by correlating the clinical and the pathologic. Of recent years, diagnosis has been more frequent since it has been realized that the somewhat rigid criteria laid down by Charcot are not always tenable.

2. Etiology:

The disease has never, in any given patient, been proved to be the result of a specific cause; nor has the disease, as it exists in human beings, ever been experimentally reproduced in animals. This is by no means meant to imply that there has been a paucity of concepts, theories and hypotheses; quite the opposite, and it would be labour and bog down a short review such as this to even enumerate them. It need only be mentioned at the present time that the hypotheses are:

- (1) That the lesions are due to scattered venular thromboses in the nervous system in association with an altered coagulability of the blood;
- (2) That they are due to transient and repeated localized vasoconstriction in various parts of the nervous system;
- (3) That they are manifestations of allergic hypersensitivity of nervous tissue, and due to antigen-antibody reactions; and
- (4) That they are caused by pathophysiologic mechanisms, precipitated by emotional disturbances in more or less characteristic and predisposed personality types.

3. General Features:

Males show a slight increased incidence, but for practical purposes, Multiple Sclerosis occurs in both sexes equally. It is about three times as common in Great Britain as in the United States, and is rather more prevalent among northern European stock. Judging by hospital admissions, it is generally conceded to be third in frequency among neurological disorders; and in Britain and Europe, is a close second to Neurosyphilis. It occurs at all periods of life, but is unmistakably commonest in early adult life, approximately two-thirds of patients having their onset of symptoms between the ages of 20 and 40 years. In 32.6% of the 389 cases analyzed by Adams, one or other of four factors preceded the first symptoms of Disseminated Sclerosis by a short period of time. These factors were:

Febrile illness	14.4%
Trauma	10.5%
Pregnancy	4.5%
Emotional upset	2.8%

4. Mode of Onset and Prognosis:

Multiple Sclerosis has been called "a disease of remissions and exacerbations," and "a disease scattered in time and space." Its onset may conform to one of three main patterns:

- (1) Suddenly, with a single relatively minor symptom of transient duration, followed by a short or extended, symptom-free interval before the disease recurs permanently;
- (2) As an acute, fulminating, massively incapacitating illness;
- (3) Insidiously, with gradually progressive disability which may or may not be broken by remissions and exacerbations.

The fleeting character of early symptoms in the first type of onset and the almost complete remission prevent most patients from realizing or remembering the actual beginning of the disease.

There is no real value in dividing the disease up into sub-types on the basis of mode of onset, clinical course, etc., because the disease is so unpredictable that no help in prognosis results. Thygeson has recently analyzed a large group of cases, followed from the initial stage of their illness for 8-15 years; and found one-quarter dead, one-half disabled, and one-quarter practically well. As far as life expectancy is concerned, Multiple Sclerosis does not warrant the common undue pessimism of physicians, for statistical analyses suggests that life expectancy is only moderately diminished by the disease. In the United States and Canada, it is estimated that the mean age of onset is 28 years; and the average duration of the disease about 27 years.

5. Pathology:

Multiple Sclerosis lesions involve chiefly the white matter of the central nervous system. Grey matter and peripheral nerves (cranial and spinal) are seldom affected. Microscopically, small to large waxy grey-yellow areas can be seen on the external and cut surfaces of the brain stem and cord. Microscopically, the fundamental feature is the plaques of demyelination, with relative sparing of the axons. The latter probably explains the extensive remissions because there is little ascending or descending secondary tract degeneration.

It is often a source of astonishment to see the great number of lesions present in those cases in which there is a paucity of clinical findings.

Laboratory investigation yields no specific help.

6. Symptomatology:

Initial Symptoms in 389 Cases of Disseminated Sclerosis (Adams et al)

Symptoms	Cases	Percentages
Weakness in one lower limb	90	23.1
Weakness in both lower limbs	73	18.8
Temporary dimness or loss of vision, one eye	54	13.9
Diplopia	50	12.9
Paresthesiae	34	8.7
Weakness in one upper limb	19	4.9
Weakness in one lower and one upper limb	16	4.1

Vertigo	15	3.8
Upset of micturition	11	2.8
General debility; exhaustion; weakness	4	1.0
Mental confusion, inability to concentrate	3	0.8
Pain in leg(s)	3	0.8
Pain in back	3	0.8
Weakness in all four limbs	2	0.5
Epileptiform attacks	2	0.5
Dysarthria	2	0.5
Unilateral facial paralysis	2	0.5
Loss of sensation over side of face; weakness of mastication	2	0.5
Staggering gait	2	0.5
Vomiting	1	0.3
Nervousness	1	0.3

**Main Symptoms in 389 Cases of Disseminated Sclerosis
on Presenting for Treatment (Adams et al)**

Symptoms	Cases	Percentages
Paresis of limb(s)	368	94.6
Upset of micturition	173	44.5
Paraesthesiae	135	34.7
Diplopia	84	21.6
Dimness or loss of vision	57	14.7
Vertigo	32	8.2
Facial Paralysis	12	3.1
Pain in legs	11	2.8
Pain in back	10	2.6
General debility	10	2.6
Headache	8	2.1
Disorder of speech	6	1.5
Loss of sensation over one side of face	4	1.0
Vomiting	3	0.8
Deafness	3	0.8
Epileptiform attacks	2	0.5
Difficulty in swallowing	2	0.5
Mental confusion	1	0.3

Ocular derangement is common, the most frequent symptom being diplopia. At first, merely an accentuation of the normal temporal pallor of the disc, but later permanent atrophy is often noted. Central and paracentral scotomas which are often reversible early, dissociation of lateral conjugate ocular movements, nystagmus and cog-wheel ocular movements are due to lesions in the medial longitudinal fasciculus and its connections with the ocular muscle nuclei, with the pontine lateral gaze centre, and the vestibulocerebellar mechanism. It will be recalled that the optic "nerve" is not in the accepted sense a nerve, but a white matter fiber tract of the cerebrum, and so involvement is no exception to the statement that the cranial nerves are not involved. In ten per cent of people, sheathing of the retinal veins will be noted, but the condition is said to be found in at least eighty per cent of cases of multiple sclerosis.

Motor symptoms of weakness, stiffness, easy fatigability occur in the early stages; with later paraparesis, spasticity, hyper-reflexia due to lesions of the pyramidal tracts. Lower facial and tongue weakness result in the spastic, slurred type of dysarthria due to corticobulbar pyramidal tract involvement. The slow, undulating type of dysarthria is sometimes "explosive" because of respiratory muscle dyssynergia. In 80-90% of cases, reflex changes occur, namely loss or impairment of superficial abdominal reflexes, increased activity of myotatic stretch reflexes, Babinski, Chaddock, and other signs of pyramidal tract involvement.

Disturbances of inco-ordination are noted in more than half of the cases, due to involvement

of spinocerebellar pathways in the cord, or of the white matter of the cerebellum and its connections. These include the symptoms of unsteadiness and staggering of gait, with eyes open or closed, on a wide ataxic base; clumsy and awkward use of the hands in skilled movements; slowness of speech, and other evidence of decomposition of movement. Intention tremor, past pointing, and dysidiadokokinesis complete the picture. Focal or generalized convulsions due to subcortical or cortical lesions are rare.

Derangement of automatic effector functions of urinary bladder and rectum are due to lesions in the descending suprasegmental autonomic pathways and ascending sensory tracts of the cord.

Gastric dysfunction, although rare, is reported.

Sensory disturbances, due to lesions of the spinal posterior column or ascending pathways in the brain stem and cerebrum, take the form of the very common numbness and paresthesias. Examination reveals hypersensitivity to light touch and pin-prick, diminution of vibration and position sense, impairment of two-point discrimination and dysstereognosis.

Mental symptoms, when discussed, always stress the patient's optimism and cheerfulness which is out of proportion to the degree of disability and seriousness of the illness. However, the euphoria is misleading, for often the incontrollable liability of emotional expression outwardly masks inward depression. This is due to motor release of control of the muscles of emotional expression by lesions of the corticobulbar tract that permit relative predominance of extrapyramidal and thalamobulbar influences.

Nystagmus, scanning speech and intention tremor represent Charcot's classical Triad of pathognomonic signs of multiple sclerosis. These signs are indicative of disease of the neocerebellar system and are not specific for multiple sclerosis and at any rate occur in less than one-quarter of cases as a group.

7. Diagnosis:

Some Neurologists have proposed that because of the great variability of the clinical picture from one person to the next, at times barely fitting within the general framework of the recognizable condition; and since the etiology is unknown. Multiple Sclerosis may be a syndrome and not a specific disease entity, perhaps having many causative factors. Two criteria must be met for acceptable accuracy in clinical diagnosis:

(1) Unequivocal objective evidence of separate discrete lesions in various parts of the nervous system; and

(2) Satisfactory history of development of symptoms and signs, and subsequent progress. Here may be mentioned the common reversibility of lesions in the early stages.

Differential diagnosis is usually only difficult at the onset of the disease, and especially when the disease manifests itself by focal signs. Syphilis, disseminated encephalomyelitis, cord tumor, acoustic neurinoma, and cerebellar tumor are about the only diagnoses which might confuse. Many patients, who later develop classical multiple sclerosis, are diagnosed early as Hysteria because of the transient, indefinite subjective sensory symptoms and the emotional instability.

8. Treatment:

General hygienic and supportive measures, drug therapy, and psychotherapy are used. Schumacher states, "In summary of the drug treatment of Multiple Sclerosis it may be said that the outlook for cure of the disease by the use of drug is unpromising, and that the outlook for symptomatic relief by drugs is less optimistic than would appear from the large number of reports which make claims of favourable effects."

9. Cause of Death:

The immediate cause of death in the majority of instances is Bronchopneumonia. Contributing factors include—urinary tract infection, extensive decubitus ulcers, and general somatic and often mental deterioration.

References

1. The Lancet: 254: 687, May 1, 1948, Disabilities—Disseminated Sclerosis.
2. Schumacher, G. A.: Multiple Sclerosis (Special articles prepared for the Medical Advisory Board of the National Multiple Sclerosis Society), J.A.M.A., 143: 1059 and 1146, July 22 and 29, 1950.
3. Treatment, 143: 1241, August 5, 1950.
4. Grinker, R. R.: Neurology, Charles Thomas, Springfield, Illinois, 1944.
5. Wilson, S. A. Kinnier: Neurology, Edward Arnold & Co., London, 1947.
6. Adams, D. K. et al: Early Clinical Manifestations of Disseminated Sclerosis, B.M.J., 431, August 19, 1950.

Lipoid Pneumonia

Lipoid Pneumonia is a type of proliferative bronchopneumonia in which the characteristic histologic changes are directly attributable to the presence of aspirated oil or fat.

It is true that fat accumulates in any inflammatory process in which tissue has been destroyed, but the amount of fat present in a lung showing lipoid pneumonia will be greatly out of proportion to the amount which would be expected in simple organizing pneumonia, or in a pulmonary destructive process alone. As Ikeda has pointed out, the term must not be used in those cases of acute exudative or septic pneumonia in which agonal or terminal oil aspiration results in a post-mortem picture of a few "foam cells" and fat globules.

Although there are a number of features characteristic enough to raise clinical suspicion, it is seldom diagnosed previous to post-mortem examination. The disease occurs mainly at the two extremes of life; and it has been estimated that about 25% of cases will be asymptomatic. In

many instances, exaggeration of the bronchovascular markings in the lower lobes on x-ray examination may be the only evidence.

Changes in the lung produced by the introduction of oils appear to have been first investigated in 1920 by Guieysse-Pellissier, who instilled olive oil into the trachea of the dog and the rabbit, and found it to be removed from the alveoli by phagocytes without leaving any trace. Corper and Freed in 1922 discovered that a proliferative bronchopneumonia followed the introduction of chaulmoogra oil, olive oil, or petrolatum into the lung of the rabbit. However, lipoid pneumonia was not given the dignity of a pathological entity until Laughlen, while working at the Hospital for Sick Children in Toronto in 1925, reported three cases in children who died of Septic Pneumonia, all of whom had received liquid paraffin as nose drops, and one adult case with a paralytic dysphagia, who had taken liquid paraffin as a laxative for four and a half months prior to death. In attempting to reproduce the condition experimentally in rabbits, Laughlen showed that a similar type of reaction could be produced by the instillation of Albolene into the trachea, but killed his animals while the lesions were still in their early stages. Pinkerton, in 1927 and in 1928, while trying to find an oil suitable as a base for the introduction of radio-opaque substances into the lungs, made an extensive study of the ill-effects produced by some. The present day safe use in bronchography of lipiodol (which has a poppy seed oil base) owes much to this work.

Animal oils, such as halibut liver oil, cod liver oil, milk-fat and egg-yolk, as a group are the most toxic because of their high fatty acid value, and the ease with which they undergo hydrolysis. Paterson claims that the more unsaturated the oil, the easier it hydrolyses, and the greater will be the reaction. For this reason the most toxic of animal oils is Cod Liver Oil. Fibrosis and giant-cell formation in the lung, together with necrosis and oedema are produced, depending on the amount of free fatty acid present in the oil.

Vegetable oils, including olive oil, cotton-seed oil, oil of sesame, and poppy-seed oil, with the exception of chaulmoogra oil produce practically no pulmonary reaction, and are expectorated within a few days. Chaulmoogra Oil is very damaging because of its high fatty acid content.

Mineral Oil (Liquid Paraffin) is chemically inert, and incites a foreign body macrophagic reaction with giant cell formation and fibrosis, but far more slowly than such occurring with animal oils.

Pulmonary reaction following aspiration of the less refined fractions of petroleum is not well-known. A few cases of children who drank kerosene or gasoline have been reported; and Coope reported finding examples of lipoid pneu-

monia in survivors of a torpedoed ship who had to swim in water contaminated with diesel oil. Kurtz has presented a case of a fatal fulminating type of necrotizing pneumonia in an adult resulting from accidental inhalation and ingestion of fuel oil.

As to predisposing factors, in nearly all cases an accompanying disease, usually in the neurological, cerebrovascular, or arthritic class—with attendant dysphagia, weakness and debility, contributed to the development of oil aspiration pneumonia. Perforated palate and forceful feeding of crying and debilitated infants favor the development of lipoid pneumonia. The more common causative agents are—liquid petrolatum, used for mouth care in elderly patients and for laxative purposes; vitamin therapy, in the form of wheat germ oil; and the various oil-base nose drops.

The incidence reported by different hospitals will depend upon the interest of clinicians and pathologists in the discovery of the condition; the age and type of patients; and the control over use of oils likely to cause lipoid pneumonia. Pinkerton has reported 6 cases in 290 consecutive autopsies; Ikeda, 7 in 101; Freiman, Engelberg and Meritt, over a ten-year period, found 41 in 3,500; and Cannon, 39 in 2,000 consecutive autopsies. At Deer Lodge Hospital, our autopsy records show 11 cases of Lipoid Pneumonia in 623 consecutive autopsies.

Although in the past nearly all reports have been autopsy cases, aspiration biopsy after careful localization by x-ray, and increasing confidence in clinical presumptive diagnosis, with frequent autopsy confirmation, make the condition seem more common. There is no roentgenologic picture which, by itself, is diagnostic of lipoid pneumonia.

If the amount of fat is considerable and becomes localized; one speaks of a paraffinoma, which because the areas of nodulation are frequently very sharply defined, sometimes simulates bronchogenic carcinoma. Usually, the bases of the lungs are favoured in lipoid pneumonia, especially the right base, close to the heart. The upper lobes may be involved, but if they are, only rarely are the lower lobes free. The x-ray findings usually persist unchanged for some time, although a superimposed bronchopneumonia and consequent atelectasis may resolve, and alter the original x-ray picture. On the whole, however, the areas of increased density do not change in size from month to month without secondary infection.

In the symptomatic group, both signs and symptoms are indefinite, and not at all pathognomonic. Blood-streaking of sputum is uncommon; temperature is usually normal; and rarely is there any chest pain. Dyspnoea is not a predominating complaint. The three main clinical expressions of the conditions are: as an acute pneumonitis (which may go on as a protracted bronchopneumonia); as a low-grade recurrent pulmonary infection with clinical evidence of repeated attacks of bronchopneumonia; and finally, a picture simulating bronchogenic carcinoma, with comparable x-ray findings.

Since a few cases have come to pneumonectomy for possible tumor which, on subsequent histologic examination, showed lipoid pneumonia; it has been suggested that a quick biopsy might profitably be made routine before proceeding with the operation.

The gross appearance of lipoid pneumonia varies from a generalized or patchy consolidation by greasy material to local areas of fibrosis surrounding a mass of necrotic tissue and oil, ranging in size up to a paraffinoma several centimeters in diameter.

Secondary paraffinomas have been observed infrequently as fibrotic nodules in other organs: in liver, spleen, kidneys, adrenals and ovaries; and fibrosis has been found so extensive as to produce arteritis and periarteritis in the kidney with considerable glomerular damage.

A disturbing feature is that with such oils as liquid paraffin, there would seem, in some cases, little relationship between the amount aspirated or the length of time over which such occurred, and the final x-ray or autopsy evidence. The suggestion would seem to be that there must be an individual variation in susceptibility to the development of lipoid pneumonia, since excessive and extensive use of oil by many people without apparent ill effects is rather commonplace. Thus a history of the moderate use of, let us say, oily-base nose drops, may easily be disregarded as the etiology in the production of bizarre clinical or x-ray findings.

References

- Ikeda, K.: Arch. Pathol., 23: 470, 1937.
- Corper, H. J., and Freed, H.: J.A.M.A., 79: 1739, 1922.
- Laughlen, G. F.: Amer. J. Path., 1: 407, 1925.
- Pinkerton, H.: Amer. J. Dis. Child., 33: 259, 1927; Arch. Path., 5: 380, 1928; Moragues, V., Ibid., 29: 691, 1940.
- Paterson, J. L. H.: J. Path. Bact., 46: 151, 1938.
- Coope, R.: Diseases of the Chest, Edinburgh, E. & S. Livingstone, 1945.
- Kurtz, J. E.: Arch. Pathol., 45: 259, 1948.

Winnipeg Medical Society

Reported by Murray Campbell

Therapeutic Uses of Radioactive Isotopes*

H. Blondal, M.D.

In this paper I will mention briefly some of the uses of the various isotopes available today, and discuss more fully two recent therapeutic applications in which radioactive colloidal gold and radioactive phosphorus are used.

In general, radioactive isotopes have three uses in medicine and biological research. It is felt by most investigators that they can be used to greatest advantage in the more fundamental type of investigation as tracer substances. Radioactive carbon (C-14) has been used to label carbohydrates, amino acids, etc., whereby the metabolic studies of these substances are facilitated. In a similar manner radioactive sulphur (S-35) has been used to study the metabolism of cystine and methionine. Radioactive phosphorus (P-32) has been used as a tracer in many types of investigation; an example is the study of phospholipid metabolism. Radioactive iron (Fe-59) has been incorporated into the hemoglobin of the red blood cell and many investigations on iron metabolism are made easier. These are only a few examples of the isotopes used in tracer work today.

The second use is as a diagnostic acid. Radioactive iodine (I-131) is used in tracer amounts to assess thyroid activity. In some institutions the determination of thyroid uptake of radioactive iodine is replacing the BMR as a test for thyrotoxicosis. Radioactive phosphorus has been used to detect tumors because the phosphorus turn-over in malignant tissue is greater than in normal tissue. The use of phosphorus is limited in this field because of its low penetrability and only superficial lesions can be detected. Di-iodofluorescein in which the iodine is radioactive, has proved to be of value in the detection of brain tumors. The selective concentration of this substance is better than phosphorus. Radioactive sodium (Na-24) is used for determining circulation time in vascular disease. It is also used to test the vasodilating effect of certain drugs. More recently sodium has been used to differentiate heart disease from simulated myocardial insufficiency. The isotope is injected into the cubital vein and its course is followed through the right heart into the lung and back to the left heart by means of a geiger counter placed over the precordium. Uniformly characteristic curves are obtained in normal people.

The third use is in therapy. When isotopes first arrived on the scene some ten to twelve years ago

they were prematurely lauded as the answer to many therapeutical problems in medicine, particularly cancer. This was so much the case that when it was found to be somewhat untrue there was great disappointment. It was like believing that the elixir of life had been discovered only to find out that it had the possibility of being a fair tonic.

Radioactive iodine is probably the most used isotope today. Because of the selective concentration of iodine in the thyroid gland it offers unique possibilities as a therapeutical agent. Its position as a therapeutical agent in thyrotoxicosis has not been completely resolved. In certain selective cases, middle aged people with cardiac complications, poor surgical risks, etc., some investigators consider it the treatment of choice. With regard to cancer of the thyroid the ability of the cancer to concentrate radioactive iodine is essential for successful therapy. Unfortunately, only a very small percentage of thyroid cancers concentrate iodine but the few that do respond dramatically. Occasionally the metastatic tumor tissue will take up iodine after thyroidectomy or after administration of the thyrotrophic hormone.

Radioactive phosphorus is the next most common isotope in therapy. The most successful application is in the treatment of polycythemia vera. In chronic myelogenous leukemia the general opinion is that it is slightly better than x-ray treatment. In chronic lymphatic leukemia the reverse is true. There is no beneficial effect in the acute leukemias and the benefit in Hodgkin's disease and lymphosarcoma is equivocal. Phosphorus has been used to advantage in alleviating pain in breast cancer with bone metastases. In some cases there is recalcification of the metastatic bone lesions, but there is no evidence that life is prolonged.

Radioactive sodium and bromine have been used in the treatment of certain bladder lesions. The lesions in these selective cases are the small multiple sessile growths arising from abnormal mucosa and involving a considerable area of the bladder. The method is one of instillation of radioactive material into a rubber balloon which previously had been placed in the bladder. Results of this therapy have been, in the main, encouraging.

Radioactive cobalt as an external source of radiation is in the initial stages of development and it is too early to discuss the few therapeutical results to date. It may solve some of the problems present in conventional x-ray treatment. In x-ray therapy the tumor dose is often limited by the amount of radiation that can be safely given to

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the skin. In cobalt therapy, the skin dose is lower for the equivalent x-ray tumor dose and greater exposures may be given. The gamma energy of the present day cobalt unit is equivalent to a two-million volt x-ray plant. To produce the large quantity of radioactive cobalt needed (3,500 curies), requires a very intense neutron source such as the atomic reactor at Chalk River.

Before I describe the therapeutical uses of radioactive gold and phosphorus I would like, briefly, to explain some of the terms I must use.

These are:

1. The Mev.
2. The Curie and the Roentgen.
3. Half Life.

Mev. The energy given off by the various isotopes is described by the term Mev. It is the unit of quality. One Mev means one million electron volts. One can get an idea of the magnitude of this term if it is compared with the conventional type of x-ray therapy unit. The large x-ray unit at the Winnipeg General Hospital is 400 K.V.P. or 0.4 Mev. The isotope of sodium produces Gamma rays (fast x-rays) about 6 times this value and Co 60 about three times this value.

Curie. Named after the discoverer of radium, it is the unit of quantity. It is defined as 3.7×10^{10} disintegrations per second. The relationship between the Mev and the Curie can best be explained by using a water analogy. If we consider that the Mev is the temperature of the water coming out of a nozzle, then the Curie is the amount or quantity of water which escapes in a given period of time. Then, in comparing equal amounts (same number of curies) of sodium and cobalt, the difference in energy of these two isotopes may be illustrated by making the water in the case of sodium, 3 times warmer than the other.

Roentgen. Is distinct from the Curie in that it belongs to the material or tissue which is receiving the radiation. It is a measure of energy which is absorbed by the irradiated tissue and therefore it is of greater value than the Curie when one tries to correlate dosage with biological effect. The roentgen, by definition, is that amount of x-radiation or gamma radiation, such that, the associated corpuscular emission per .001293 grams of air, produces in air, ions carrying one electrostatic unit of electricity of either sign. This applies only to x-rays or gamma rays but in an effort to correlate particulate radiation, i.e., beta radiation, with the biological effects, the roentgen has been extended to include the beta roentgen. $1r = 1 \text{ beta } r$.

Half Life. All radioactive isotopes are unstable; they are disintegrating continually in a random manner. The term half life is a convenient one (the decay curve is exponential and it would be difficult to accurately determine the whole life for this reason). It is the time which has elapsed

when an isotope has reached one-half of its original strength. Half lives vary greatly and I will mention some examples to illustrate this.

P32—15 days

I131—8 days

Na 24—14 hours

Au—2.7 days

Radium—1500 years

C-14—5000 years

At the Royal Cancer Hospital in London¹ it was decided to try isotope radiation in an effort to reduce accumulation of malignant fluid in the pleural and peritoneal cavities of patients suffering from breast and ovarian malignancies. The pathological processes involved in these effusions is not well understood, but on the assumption that malignant involvement of the serous membrane is a necessary factor, any material that reduces the activity of the tumor might be expected to result in a decrease in the rate of fluid formation.

For reasons which I will point out, radioactive colloidal gold (Au 198) was chosen as a suitable isotope. It was thought necessary to confine the radiation to the cavity in question. In other words, the isotope must not leak through the lining membrane and escape to other parts of the body. It was found that the large size particles of colloidal gold fulfilled these requirements. Ordinary stable gold after irradiation in the pile, absorbs neutrons and becomes radioactive. The radioactive gold decays by giving off 1 beta particle of maximum energy 0.96 Mev and a gamma ray of energy 0.41 Mev. The half life is 2.7 days. Sixteen cases of ascites and eighteen cases of pleural effusion were treated. In each, as much as possible of the effusion was removed by aspiration. Then 50 ml. of normal saline, followed by 100 mcs. of Au 198 followed by a further 50 ml. of saline were introduced. After this procedure, the patients were instructed to undergo a series of postural changes to disperse the active material as evenly as possible throughout the cavity, as uneven distribution might lead to dangerously large doses in small areas. As a precaution, periodic surveys were made with a portable geiger monitor.

It must be remembered that the radiation contains both beta and gamma radiation, and the dose from each must be considered. Calculations show that after administration of 100 millicuries, the lining of the cavity received 7,000 roentgens due to beta radiation and about 400 roentgens due to gamma radiation. By far the greater part of the radiation is beta which affects only the tissue it is in contact with up to 1 to 2 mm. in depth. The gamma dose is fortunately small and other organs are not seriously involved. I should mention here that unlike most other isotopic applications, the excreta and the urine contain insignificant amounts

of radioactive material, as only small amounts of the gold reach the blood stream.

The success of a method, the sole aim of which is palliative, must be weighed on the delicate balance of symptoms relieved against symptoms produced. Less than half of the patients complained of nausea and vomiting and flatulent dyspepsia. Over half had remissions in formation of their effusions with consequent relief of pressure symptoms and respite from paracentesis. It was felt that the measure of relief afforded to the majority of patients considerably out-weighed the minor post-therapeutic symptoms and the method was of some value.

The next isotope I wish to discuss is radioactive phosphorus (P32) in the treatment of various surface lesions. P32 is the radioactive isotope of stable P31, and it is produced in abundance in the atomic reactor. The nuclear reaction is similar to gold in that P31 absorbs one neutron to become P32. It differs from gold in that it emits only beta particles. The maximum energy of the beta radiation is 1.7 Mev and the half life is 14.7 days.

The radiation from P32 does not penetrate very far into matter. It has been estimated that the first two to three mm. of skin absorbs about 80 per cent of the energy. For this reason it was thought particularly useful for treating shallow surface lesions because the deeper structures would not be subject to radiation. Professor Low-Beer, U.C.L.A.² first used P32 topically. He soaked blotting paper with a solution of P32. After drying, he cut this to the size of the lesion and applied it. At the Royal Cancer Hospital³ we impregnated ordinary thin plastic sheeting with red phosphorus and irradiated it in the atomic reactor. We were able to determine the surface activity in terms of beta roentgens with a shallow ionization chamber system. We treated ten selected

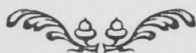
cases of shallow skin cancer, eight of which proved at biopsy to be basal cell and two epidermoid cancer. We tried single doses, between 3,000 and 4,000 beta roentgens, and divided doses of about 7,000 roentgens and found little difference in the end result. We estimated that all the lesions were 2 mm. or less in depth. However in one case we underestimated the thickness and there was recurrence of the tumor after two months.

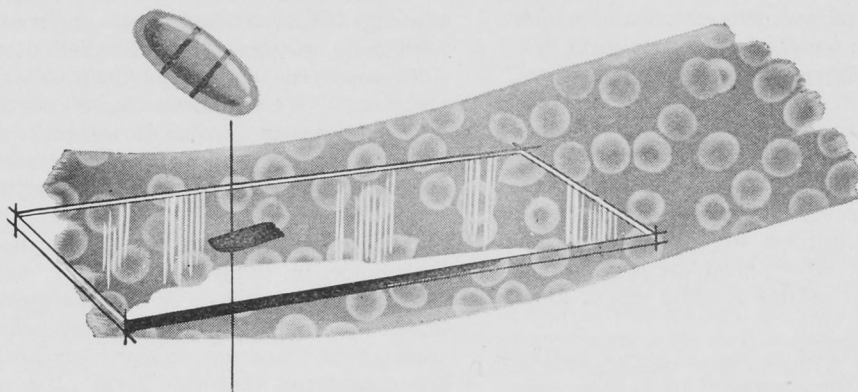
We treated two cases of psoriasis with complete regression of the lesion. There has been no recurrence in twelve months. I mention these results with some reserve because psoriasis is well known as one of those afflictions which will respond, to some extent, to many kinds of treatment. We considered that this form of treatment was excellent for patients with multiple facial rodent ulcers. The lesions were usually thin and small and the treatment, unlike x-ray, left no scars. It has been suggested that P32 surface therapy might be useful in treatment of skin angiomas or port wine stains.

In closing I would like to mention briefly some of the recent results on the effect of I.V. administration of colloidal gold in leukemic patients.⁴ A total of 80 patients were treated and remissions occurred (invariably) in both chronic myelogenous and lymphatic leukemia. These remissions lasted four to six months on the average, and often extended to two years in elderly patients. There was very little attendant radiation sickness. The investigators consider this treatment superior to other forms of treatment used today.

References

1. Walton, R. J. and Sinclair, W. K.: In the process of publication.
2. Low-Beer, B. V. A.: *American Journal of Roentgenology and Radium Therapy*, 58:4, July, 1947.
3. Blondal, H. and Sinclair, W. K.: In the process of publication.
4. Hahn, P. F.: Unpublished.





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In Lighter Vein

Submitted by Dr. E. S. Moorhead

"Anybody Else Want a Tooth Pulled?"

The house-surgeon stood at the door and viewed with a gloomy air, the thirty or forty people sitting round the waiting-room.

Some of them had been there many times.

Mrs. Murphy had an ulcer on her leg; she had treated it for thirty years and only wanted some more salve. These weekly visits to the out-patient department were a source of joy to her. She loved to enquire after the complaints of her neighbours. Long experience gained by listening to the conversations round her, justified her oracular pronouncements as to cause and cure of any disease.

Newcomers in her vicinity went in to the doctor with a diagnosis already made, and a firm conviction as to what the treatment should be. Young house-surgeons were annoyed, frequently questioned the diagnosis and altered the treatment. The old hands felt that the important thing was to satisfy the recipients of benefits, and so gave them what they wanted.

Besides, it was getting near lunch time, and there was a prospect of a game of tennis if the waiting-room could be cleared soon.

Old Mulcahy was back with his rheumatism. He was stone-deaf, but insisted on button-holing the doctor, and shouting into his ear the symptoms which had developed during the last fortnight. If a repeat mixture would satisfy him, and a sign that the interview was over, all would be well.

However, the old man felt that age had given him certain prerogatives, and he resented being shepherded to the door before he had unburdened himself of all the new phases of his ailments, and some of the older ones that only the doctor's predecessors had been privileged to hear.

The extraction of teeth was a duty that every house-surgeon had to perform, since there were no free dental clinics. A few sketchy directions were usually given before he made his first attempt. If the earlier teeth were easy he soon acquired skill. Otherwise he trusted to strength and broke the crowns off a good many.

At the call, "Anybody else want a tooth pulled?" six rose, and filed in. That would reduce the crowd in the waiting-room considerably. If he could manage things right, these dental cases should not take long.

He lined them up in a good light, made a hurried inspection, and picked out one man whom he directed to the operating chair. The others were told to rest on a bench over by the door.

"How long has it been hurting you, me man?"

"More than a week, yer honour, an divvle a bit of sleep I've been able to get these three nights.

Me mouth's that sore I couldn't ate me mate, and if it hadn't been for the odd sup of porther, shure I'd a been starved entoirely."

From the smell of his breath, it seemed likely that he had been preparing for the ordeal with some whiskey.

It certainly looked a bad tooth, so much decayed that it would crumble at the first tightening of the forceps. The gums were inflamed and pressure on them would probably cause exquisite pain.

"Take hold of the sides of the chair, and open your mouth wide." The doctor fitted the instrument carefully on the tooth, and pushed it home to the accompaniment of groans from the victim. There was a crunching sound, a yell, and the doctor was looking at what he held in the forceps, while the man was stooping over a basin, spitting out blood and blaspheming the tooth.

"Did ye get it all out, yer honour?"

"No, I'm sorry it broke. There's a bit of a root in there still. As soon as it stops bleeding we'll have to try and get it. That's the root that's giving ye all the pain."

"Glory be to God, docthor, I don't think I can stand any more. "T'was terrible bad when ye tuk hould. Maybe I'll come back another day, and ye can take the rest of it out."

"Nonsense man, shure you wouldn't be a coward over a tooth. Drink this, and pull yourself together, and we'll get it out this time." Finally he allowed himself to be persuaded, and braced himself once more.

To judge by the struggles and groans, this pain was worse than the first; but the doctor had a good hold, and short of being hit by his patient, he would not let go. The forceps came out with a jerk, and the occupant of the chair sank back exhausted.

A noise made the house surgeon look up from the root he was examining.

The last of the group on the bench was going out through the door.

House surgeons are stimulated by a thirst for knowledge, and their main object is to broaden their experience. The lines along which an investigation is carried out are sometimes amazing.

One afternoon a man was assisted into the casualty room very drunk, and with a scalp wound which required attention. The wound was dressed with difficulty by the doctor who was taking his first day's duty alone in the casualty room. It was the custom to give every intoxicated patient a good sized dose of black draught. (Black draught is a very unpleasant beverage, which includes

senna, salts, and other unpalatable ingredients). Given entirely in a spirit of goodwill it undoubtedly helps to mitigate that "morning after" feeling.

The house-surgeon, who has since become very distinguished, poured out a dose, and to his horror, discovered a moment later that his patient had swallowed without demur, half a cupful of Friar's Balsam! Such a situation was beyond his experience. White, trembling and almost incoherent, he dashed into the room of the senior interne, one who had become inured to the emergencies of an hospital.

"I say, Bob, I've poisoned a man."

"The devil you did. Did you make a good job of it? Better call up the coroner."

"Oh, he's not dead yet. He was drunk. The Friar's Balsam and the black draught were in the same kind of bottles, and I gave him the wrong one. D'ye think he'll die?"

"Friar's Balsam, eh. No I don't think he'll die. It'll put a coating on his stomach that he won't forget. Oh, I say isn't that luck. You couldn't have done better if you tried. He's just the case we wanted."

Some days earlier at the house-surgeon's dinner table, conversation had turned on the properties and values of a drug, apomorphine. It is injected into the arm, and is only used as an emergency treatment in poisoning cases, for it has the capacity of emptying the stomach with extreme rapidity. It was on the assertion that action could be expected in fifteen to twenty seconds that the discussion had become heated. The general opinion seemed to be that the claims for such rapidity were excessive.

No wonder the senior house-surgeon felt satisfied. The gods were good, and here was a heaven-sent opportunity of testing the truth of the statement.

"Send out a call for all disengaged doctors to hurry to the casualty room, and tell someone to bring a stop-watch."

It was to them a scene of breathless interest. One held a loaded hypodermic syringe, one a watch, and the attendant nurse a basin. The word to go was given, all bets having been laid. Sympathy for my readers compels me to draw a curtain at this stage. It is enough to say that the text books were approximately correct. The subject of all this was out of danger, but still too intoxicated to be aware of what was happening.

As there seemed to be no necessity for further treatment, and the desire for increased knowledge on the part of the medical staff having evaporated, the victim was placed on a couch, where he immediately dropped asleep. Two hours later he woke feeling much refreshed, but showed amazement at finding himself in hospital. He expressed

his thanks very politely to all who had been kind enough to minister to him. When asked how he felt, "Shure, yer honour, the sooner I get me supper the better. I'm that hungry I could ate yon stuff in the pickle-jars. I disremember ating me dinner, but I don't think I could 'ave forgot that. There's a quare taste in me mouth, but then there's pubs roun' here, yer honour, that does be givin' ye terrible bad whiskey when they see ye've a few dhrinks already."



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Manufacturer — Schering Corporation Limited Montreal.

Active Constituent — Diphenmethanil methylsulfate (N, N-dimethyl-4—piperidylidene-1, 1-diphenylmethane methylsulfate).

Action—Anticholinergic agent.

Advantages—because of its selectivity of action, side effects such as mydriasis, dryness of mouth, urinary retention, and constipation are rarely produced.

Indications—Peptic ulcer and other conditions where it is desirable to reduce gastric acidity and motility of the stomach. Also effectively curtails hyperhidrosis.

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Packaging — 100 mg. tablets, scored, bottles of 100.



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Manufacturer—Schering Corporation Limited, Montreal.

Description—An aqueous suspension containing 50 mg./cc cortisone acetate in a multiple dose vial.

Indications—Cortogen suspension is indicated in conditions where a high dosage of cortisone acetate is desired. Best results are obtained in rheumatoid arthritis, rheumatic fever, rheumatoid spondylitis, psoriatic arthritis, early lupus erythematosus.

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Book Reviews

For the Complete Physician

For the Complete Physician: I have before me three books all of which deserve to be part of every doctor's library. They are convenient in size, comfortable as to print and are written in such a way as to make reading easy and comprehension not difficult. They are all based on the instruction which, for years, the authors have been giving their students and which, in turn, is based upon long experience with their subject.

How important their subject has become is revealed in some appalling statistics. In the United States more hospital beds are occupied by the mentally ill than by the physically ill. In addition there are 5,000,000 psychoneurotics, 3,500,000 mental defectives, 3,000,000 alcoholics, and 7,000,000 have criminal records. Each year 2,500,000 children between the ages of 10 and 16 pass through juvenile courts, out of every hundred school children "emotional immaturity will blight the lives of thirteen, eight will have emotional breakdowns, four will end up in mental hospitals." And of marriages in the United States two out of three will end in separation or divorce. And to these most alarming figures must be added the many millions of people who haunt doctors' offices in the search of relief—millions who are distressed in mind even more than they are diseased in body.

Consideration of the above figures leads one to ask, is not this state of affairs more dangerous to the world at large than any complicated bomb devised or devisable?

Perhaps the time will never come when jails, asylums, juvenile courts and divorce courts can be closed. But the causes of this enormous amount of crime, degeneracy and misery are not unknown. Nor is it impossible to devise means of cure. But, while the fields are white unto harvest the labourers are few. There is only, comparatively speaking, a handful of thoroughly trained workers. Many more are needed and in the mean time, the problem must be handled as would be ripened crops where modern machinery was inadequate—useful work could be expected of and could be done by labourers armed with nothing more effective than a scythe or a sickle. In other words, until there is an adequate supply of the psychiatrically trained, much of the burden must be accepted by the psychiatrically minded.

After all, much if not most of surgical treatment is furnished by men who are not surgical specialists. There is therefore no novelty in suggesting that a very large part of psychiatric treatment should be applied by men in general practice. A practitioner who cannot cope with minor surgical conditions is not very useful; but a practitioner

who cannot probe his patient's mind, who cannot understand the why and wherefore of his behaviour is even less useful, because, in the sick, whether or not there be concomitant disease of body, there is always distress of mind.

And so we are bringing to your attention these three books. If you feel that your knowledge of psychopathology is defective you will find these volumes helpful in remedying the deficiency. The complete patient can be properly attended only by the complete physician; and a doctor whose patients' minds are to him *terrae incognitae* is not a complete physician.

* * *

"Bases of Human Behavior" is subtitled "A Biologic Approach to Psychiatry." It is, in essence, the instruction given to first year students at the University of Pennsylvania where the author, Leon J. Saul, is Professor of Clinical Psychiatry. "The book is designed to provide, in simple form, the fundamental knowledge upon which modern dynamic psychiatry rests. Its purpose is to give the reader an appreciation of the reality of emotional forces within the mind, their source in the biology of the organism and something of their relationship to physiological functioning."

The 150 pages are divided into three parts. Part One is entitled "The Power of the Emotional Forces: Psychodynamics as a Basic Science." This is introductory. It traces the development of psychodynamics and shows how it has come about the gradual change in our attitude towards the patient and our altered conception of disease.

Part Two—Motivation and its Effects—explains how emotional forces can affect physiological processes; how they can affect these processes to the point of producing symptoms; and how, going a step farther, they may produce structural change and so give a local cause for the perpetuation of symptoms.

Emotional forces can, however, affect not only somatic physiology but can influence also the activities of the mind. Thus perception, thinking, feeling and behaviour, all come under their governance. Delusions, hysteria, anxiety, depression, obsession, the seeking for relief in drugs, the misbehavior of the petty and grand criminal—all of these result from the baneful effects of ill-directed emotional forces.

The Third Part—Elements of Psychodynamics—begins with a consideration of the organism as a unit. Then follow chapters on the Structure of the Mind, the Development of the Mind, and the Biologic Forces in the Mind.

In these chapters the role and development of the id, the ego and the super ego are discussed with great clarity and quite simply. The influence of these concepts upon the way we think, the way we behave and the way we live is shown to be all-important. An understanding of the role

each plays leads to an understanding of the basis for the misbehavior of the individual patient. However unreasonable an action may appear to be on the surface it is never unreasonable, though even the one who performs it may not comprehend its true significance.

As in the organic sphere so in the sphere of the mind, pathology is meaningless in the absence of a knowledge of normal anatomy and normal physiology. Saul's "Bases of Human Behavior" furnishes the reader with the necessary background knowledge of structure and function. There are several diagrams.

* * *

Emotional Immaturity" is, as it were, the superstructure for which "Bases of Human Behavior" furnishes the foundation. Written by the same author in the same pleasant and interesting way it elaborates the basic and fundamental facts concerning the neuroses. From these minor mental disorders no one is completely free and, in the United States, some thirty millions of people find in them a source of unhappiness and ill health. It is possible that in other countries the proportion is not much less.

Neurosis signifies a regression as a result of failure to adapt, or is evidence of a failure to develop maturity. In either case it is, in essence, a childish reaction. The happiness and welfare of individuals alone but of the world as a whole depend upon the emotional maturity. We are more directly concerned with evidence in, and effects of immaturity upon, individuals but it is not difficult to see how much the fate of mankind lies in the hands of our profession.

"The Achievement of Maturity" forms Part One of this book. The Second Part deals at some length with Emotional Forces in the Development of Maturity. In it are discussions on Independence and Dependence; The Need for Love; Egotism, Competitiveness, and the Sense of Inferiority; Training and Conscience; Hostility and Violence; Sexuality; the Grasp of Reality; Persistence of Childhood Patterns.

Part Three deals with the Nature of Neuroses. It discusses the specific emotional vulnerability which is to be found in every one; how hostility and guilt are generated, how they show themselves and what are the effects they produce upon those who harbour such feelings. There is consideration of other stresses which arise as the result of occupation, environment, domestic situation and so on: the factors which drive one into flight, or to fight or to take refuge in physical symptoms.

In Part Four—"The Dynamics of Personality"—the author discusses the determinants of personality the structure and operation of the mind, the interplay and conflict between forces, the mechanisms of defense, and the genesis and development of emotional disturbances.

A study of this work will aid greatly in understanding the factors that lead to the development of neuroses and how and why the clinical pictures are so various. Without an understanding of emotional life there can be no understanding of life in any of its aspects whether of health or of disease.

* * *

"**The Fundamentals of Psychiatry**" is the third volume under review. This is the new (5th) edition of Strecker's popular and well known book. Five editions in ten years is evidence enough that it has been found useful. The present edition has been extensively revised. There is a new chapter on psychotherapy and the chapter on psychosomatic medicine has been rewritten and enlarged.

In his Preface the author writes, "This edition is addressed particularly to general practitioners and workers in every area of medicine and surgery. They should and must treat numbers of patients suffering from psychoneurotic and psychosomatic disabilities."

After an introductory chapter, on the importance and opportunities of psychiatry, there follow chapters on Etiology, Classification, Methods of Examination and Symptoms.

Mental ailments are discussed under the headings Organic Psychoses, Toxic Psychoses, Functional Psychoses and Psychoneuroses. There are new chapters on Psychosomatic medicine, on Treatment and on Psychiatry and the War. There is also a chapter on nursing.

A glossary is added for the convenience of those to whom psychiatric terms may be unfamiliar. There are 21 diagrammatic figures and a full index.

* * *

The three books are complementary and supplementary to each other. There is, of course, some duplication but this only serves to emphasize the points of greatest importance and to impress them upon the reader. Moreover, the three volumes supply a maximum of information with a maximum of pleasure and in a minimum of time.

Bases of Human Behavior, a Biologic Approach to Psychiatry, by Leon J. Saul, M.D., Professor of Clinical Psychiatry, University of Pennsylvania School of Medicine; Psychiatric Consultant, Swarthmore College; Lecturer, Bryn Mawr College. 150 pages, illustrated. Price \$4.75.

Emotional Immaturity, Development Dynamics of Personality, by Leon J. Saul. 388 pages. Price \$5.75.

Fundamentals of Psychiatry, by Edward A. Strecker, M.D., Sc.D., Litt.D., F.A.C.P. Professor of Psychiatry and Chairman of the Department, Undergraduate and Graduate Schools of Medicine, University of Pennsylvania; Psychiatrist to the Pennsylvania, Philadelphia and Germantown Hospitals; Consultant and Chief-of-Service, Institute of the Pennsylvania Hospital; Consultant to the

Surgeons General, U.S. Army and U.S. Navy, and formerly Consultant for the Secretary of War to the U.S.A.A.F.; Senior Consultant in Psychiatry, Veterans Administration; Consultant in Mental Hygiene, U.S.P.H.S.; Chairman, Committee on Psychiatry, National Research Council; Chairman, Committee on Psychiatry, American National Red Cross. Fifth edition. 250 pages, 21 illustrations. Price \$5.00. J. B. Lippincott Co. Ltd., Montreal, Canada.

The Meaning of Symptoms

A symptom, or even a syndrome, may have many causes. A correct understanding of the significance of a certain symptom in any case depends upon an understanding of the mechanism whereby it is produced. This implies a knowledge of normal structure and function and a knowledge, also, of the processes that lead to alteration of structure and disturbance of function. That is the basic sciences are close to the bedside.

The longer one is in practice the wider tends to become the gap between the academic and clinical sides of his knowledge, and yet modern advances in all the basic sciences have an increasing clinical significance. What one wants and needs is a bridge to span the gap between the laboratory and the bedside. MacBryde's "Signs and Symptoms" is such a bridge as is made clear by his subtitle "Applied Pathologic Physiology and Clinical Interpretation."

Thirty-four common symptoms are considered and analyzed. First of all is a chapter on the Process of Analyzing and Interpreting Symptoms. Then follow eight chapters dealing with Pain. The first of these is a general consideration of the symptom—its anatomy, physiology and psychology; the mechanism and significance of superficial, deep and central pain, physical responses to pain and so on. The other seven chapters deal separately with Headache; Sore Tongue and Sore Mouth; Thoracic Pain; Abdominal Pain; Backache and Back Pain; Joint Pain; Pain in the Extremities; Clubbed Fingers and Hypertrophic Osteoarthropathy.

There is a chapter on Palpitation and Tachycardia; and one each on Cough, Hemoptysis, Dyspnoea and Cyanosis. Gastro-intestinal symptoms include Anorexia, Nausea and Vomiting; Constipation and Diarrhoea; Hematemesis and Melema; and Jaundice.

Other symptoms analyzed are Nervousness and Fatigue; Fever; Disturbances of consciousness and Muscle Movement; Fainting; Vertigo and Dizziness; Dehydration; Oedema; Obesity; Weight Loss and Under Nutrition; Pathologic Bleeding; Pigmentation of the Skin, and Itching.

The book is the work of twenty-six authors who have supplied not only a clear and readable

text but have illustrated it copiously. There are 50 charts, 98 illustrations in black and white, 8 color plates and an extensive bibliography. The 48-page, double column index makes reference easy. However, though useful as a reference book it is primarily a volume which invites careful reading and, indeed, re-reading.

Everyone familiar with the earlier edition will agree that it is a very helpful book. In many respects this second edition is almost a new book. All the chapters in the first edition have been revised or re-written and new chapters, charts and illustrations have been added. It is an exceedingly useful work.

Signs and Symptoms Applied Pathologic Physiology and Clinical Interpretation. Edited by Cyril Mitchell MacBryde, A.B., M.D., F.A.C.P. Associated Professor of Clinical Medicine, Washington University School of Medicine; Assistant Physician, the Barnes Hospital; Director, Metabolism and Endocrine Clinics, Washington University Clinics, St. Louis Missouri. Second Edition, 783 pages with 98 illustration, 50 charts and 8 color plates; J. B. Lippincott Co., 2083 Guy St., Montreal. Price \$11.00.

"Anatomy in Surgery"

A book of anatomy, written by a general surgeon, might well be expected to give an excellent and practical view of surgical anatomy. "Anatomy in Surgery" is just such a book, and will be heartily welcomed by the surgeon and the student in surgery.

The author has given us the benefit of seventeen years' experience in teaching gross and topographic anatomy and surgery. He has composed a text covering the entire body in concise and accurate detail, supplemented by numerous excellent and well-labeled illustrations, many in color. A feature which will appeal to everyone is the inclusion, at the end of each section, of a description of the technique of operations ordinarily performed on the areas described. This method of presentation has the obvious advantage of closely correlating anatomic data with the technical phase of surgery.

This book is enthusiastically recommended as an addition to any medical library, where it will serve as a useful refresher of easily forgotten anatomic detail.

"Anatomy in Surgery," by Philip Thorek, M.D., F.A.C.S., F.I.C.S., Assistant Clinical Professor of Surgery (Formerly assigned to Gross and Topographic Anatomy) University of Illinois College of Medicine; Diplomate of the American Board of Surgery; Associated Professor of Topographic Anatomy and Clinical Surgery, Cook County Graduate School of Medicine. 970 pp., 720 illus., 211 in colour. J. B. Lippincott Co., Philadelphia, London, and Montreal, 1951. Price \$25.00.

Editorial

J. C. Hossack, M.D., C.M. (Man.), Editor

May — The Month

It is generally believed that we owe the names of the months May and June to the goddesses Maia and Juno but this is not so. Maia, it will be remembered, was a daughter of Atlas and the mother of Mercury. Except to those who accept the caduceus as a medical emblem (which it is not) Maia has nothing to do with Medicine. Indeed physicians are nowhere honoured in the calendar though soldiers and lawyers both find a place. In fact both May and June are so named in honour of law makers.

The Roman Senate, like our Parliament, consisted of two bodies, the elder statesmen or *Majores* and the younger statesmen or *Juniores*. These formed the two houses of the Roman parliament and correspond roughly to our Senate and House of Commons. So highly did the Romans regard law and law-makers that they dedicated one month (May) to the *majores* and another (June) to the *juniores*. Such a thing would never be dreamed of today but if you can find any reason for doing special honour to our Senate this is the time in which to do it.

In the Alban Calendar May was the second month. Romulus made it the third and Numa Pompilius made it the fifth. Moreover it had only twenty-two days originally. Romulus gave it thirty-one. Numa took away the extra day and Caesar put it back again chiefly because he felt that the upper house deserved more prominence than the lower house. (It is remarkable how much interesting, if professionally useless, information you gather from these pages). Incidentally Ovid in his *Fasti* gives expression to the belief that May is an unlucky month in which to get married—a belief that is still prevalent. (I can hear some cynic say "Why May especially?")

Spring the Sweet Spring

I do not know how many people read how much poetry these days, but I have an idea if more of the former read more of the latter the world would be a more pleasant place in which to live. There was a time when lovers would stroll arm in arm he whispering, and she listening to, home-made or ready-made verses.

That went out with the seventh Edward, yet at this time of year there is a song in every heart. Our Spring comes abruptly and even the little song of the meadowlark gives a lift to us who, for so many months, have heard no bird sing. How much more charming is it in those favoured lands that own the nightingale whose voice brings one to a halt however urgent his business. Did

not good old Izaak Walton in his rapture exclaim "Lord, what music hast Thou provided for the saints in heaven, when Thou affordest bad men such music on earth!"

We can't always have with us in our ears or in our memories the notes of singing birds but we can always have in mind the words of the many poets who have taken Spring as their theme; and inward recitation puts us in the proper spirit, a sort of healing, healthy, comfortable spirit, that lightens the day's labours. And so, gentle reader, let me suggest that you take from your shelves Palgrave's *Golden Treasury* or some similar anthology and by reading it increase the pleasure natural to the season.

The 1952 Convention

Three internationally known authorities who practice in the United States will be with us as guest speakers. These are Dr. Max Thorek of Chicago, Dr. Norman F. Miller of the University of Michigan, and Dr. Frank Walsh of Johns Hopkins University.

Dr. Miller is Professor of Obstetrics and Gynecology in the University of Michigan. He will speak on the Management of the Menopause and on the Role of the Practitioner in the Prevention of Cancer.

Dr. Frank Walsh is one of our alumni who has acquired an international reputation. He is the author of a monumental work on neuro-ophthalmology. He is an excellent speaker and his topics will be chosen to suit an audience of practitioners.

Papers

Intending contributors are again reminded to get in their notices of intention to give presentations. There has been a tendency to send these late in the year, and not a few are received after all available periods have been filled. We want a well balanced programme, and we want to give that programme wide publicity. Therefore we ask those who have in mind the giving of papers or presentations to let us know their intentions as soon as may be. Notify Dr. Macfarland. With your topics include a brief summary of what you mean to say.

Entertainment

It is the desire of the Executive that the convention be not only pleasurable and profitable from the educational standpoint but be also a time for amusement and relaxation.

What would suit you in this latter regard? Almost any sort of entertainment is possible. What

appeals to you? You will make it easier for the entertainment committee if you will give them a hint.

For the Ladies

For the wives of rural members the Convention should be looked forward to as a respite from the daily routine. Mrs. Goodwin is anxious to meet many doctors' wives and wants to make things enjoyable for them. She is arranging a round of entertainment but she realizes that many of her guests will have their own ideas of what they want to do or see. If she knew what were the individual wishes she could plan to meet them and greatly wishes to do so.

So, ladies, will you regard the Convention as something that has interest for yourself, as well as for your husband? You will be sure of a pleasant time under any circumstances but that pleasure will be enhanced if you will give Mrs. Goodwin and her committee an opportunity to meet your own particular wishes and what these may be she can learn only from yourselves. Write her, won't you?



Guidance for New Graduates

The Executive of the Association have been giving consideration to the futures of those who, this month, become our colleagues. It is certainly a matter of great importance not only to the newcomers but to their seniors. In the past a great deal of attention has been paid to the selection of incomers. Every effort has been made to assure the admittance to College of only those who are likely to maintain a high standard of integrity in practice and who are likely to succeed in it. It is paradoxical to be so attentive to what one might call the raw material and, at the same time, negligent of the fate of the finished article.

Every student has properties and potentialities which, if developed, will assure him satisfaction and success. But not every student is aware of either his potentialities or of the handicaps that lie ahead. He is like a navigator who, under supervision, has spent seven or eight years in constructing his craft which, at the end of that time is launched with much éclat. But most often he is launched on an uncharted sea and without aids to navigation.

And so the Executive cogitated upon the value, to final year students, of a series of talks upon the problems of practice. Like all Gaul this matter might be divided into three parts: first, the student himself; second, the general problems connected with modern practice and third, the special problems of doctor-patient relationship.

What is each individual student best fitted to do? That is really the crucial question. No one is equally efficient in all branches. One might be

intensely practical yet unable to impart his information and a teaching appointment would be wasted on him. Another, like Viola, might be better able to instruct twenty than be one of the twenty to follow his own instruction. Some have that warm personality and general competency that points them out as ideal general practitioners, while others show an aptitude for mechanical procedures and therefore a fitness to be surgeons.

Those who come in close contact with internes are especially fitted to assess and advise them. Even a short acquaintance is long enough to discover the strengths and weaknesses, the virtues and the faults of the senior students. It would be an advantage to have each interne attached to one staff member who would stand towards him in loco parentis even though they were not always associated in the relationship of master and pupil on the same ward or service. Between the two an intimacy would develop that would make for frank discussion. Personal problems could be solved and useful advice furnished for future action.

This personal guidance could be supplemented by general lectures on the problems of present day practice. Health is becoming more and more a national concern. Our problems have become largely economic and political. Each year sees increasing numbers of doctors occupying salaried positions. Of those in private practice, an increasing amount of their revenues comes from organizations such as the M.M.S., State medicine—a threat to some, a promise to others, seems close at hand.

These are matters which should be discussed with and by the men who are chiefly affected—the newcomers. The pros and cons of state medicine, of pre-paid plans, of independent practice, of institutional employment require discussion so that the new graduates may learn with what they must contend in the new order.

By personal study of the individuals and by instructive discussion of the great problems of the day, senior students and new graduates can be greatly helped to achieve their aims of happy useful and successful lives.



What an Ulcer Thinks About

Over the years I have attended very many symposia on peptic ulcer. I have even taken part in some. I have heard it discussed from all sorts of viewpoints—those of internists, of surgeons, of pathologists, of radiologists. I have heard surgeons jest at the inadequacy of medical treatment. I have seen internists gloat (in a gentlemanly way of course) over surgical failures. I have heard about (and felt) the agonies of those who harbour this most unpleasant intruder. But I have not yet attended a symposium where a contribution was based on the view point of the ulcer itself.

What does an ulcer think about? You say an ulcer cannot think but how do you know? There are more things in heaven and earth than are dreamed of in Boyd's Pathology. Why shouldn't an ulcer be able to think? It can speak although, to be sure, its common language is symbolic and is merely the ventriloquism of the Psyche. But if we are attentive and tune our ears to the proper frequency we can hear less cryptic utterances and learn a useful lesson.

The ulcer with which I am most familiar is Claudius. He is dead now but for years we lived together in close and uncomfortable intimacy. Claudius did not receive his name until after his demise and how he got it all came about in the following fashion.

It so happened that when he was introduced to me he presented the appearance of a little, wrinkled old face. At the moment a ray of sunlight fell upon his features and set up such an arrangement of light and shade that one would swear the lips twisted into a wry sort of leer and an eye appeared to wink. Remembering the heinous atrocities he had perpetrated upon me during the years of our (literal) connection, I could not refrain from muttering "Villain, villain, smiling damned villain"—a remark, you will remember, which a rather famous person addressed to his uncle Claudius.

This face-to-face encounter apparently loosened, or set in operation, that most miraculous organ which gives tongue and utterance even to murder's self. At first I thought the grin was at my expense. And then I thought "why should it grin now that its mischievous assiduity has been brought to a halt?" Indeed, I must have uttered the thought, for quite distinctly I heard it answered "why should I not be happy? I, also, am out of my misery." And then it added "I don't suppose you ever thought of the sufferings of us poor ulcers?"

I admitted that such an idea had never occurred to me. "Ulcers," I said, "are inflictors, not endurers, of suffering." "Oh," said Claudius, "that it where you are wrong. We give but we also get," and then, with an unhappy sigh, he added "our lot is indeed a sad one." "That," I said, "is something I am glad to hear. Tell me, for my pleasure, how an ulcer can be made to feel as miserable, or even half as miserable, as its unfortunate host?"

"To answer that question," replied Claudius, "it is necessary for me to go back to the beginning. You will agree that the most fateful period of life is the earliest part—that 'in the morn and liquid dew of youth contagious blastments are most imminent'?" "I agree." "Well, the same rule applies to us as applies to you. Think of that. You will agree, also, how terribly important to the child is the feeling of security, the feeling that he is wanted, the feeling that he is loved." "Certainly

I agree as far as children and, indeed, grown ups, are concerned. But . . ." "But me no buts. We ulcers have our feelings; we need affection; we want to feel secure. But how do you treat us? You loath us, you revile us, you address to us the most abominable language and deluge us with the most repulsive things you can think of. You have even gone so far as to dowse us with the urine of pregnant horses! Urine of pregnant horses! Ye gods what will you think up next? And then you wonder why we react as any other ordinary human beings would react!"

This was an argument that had not occurred to me so I let him continue. "What happens to an unwanted, unloved child? Does he not grow up unlovely and unlovable? Does he not become hating and hateful, aggressive and obnoxious; filled with feelings of inadequacy and inferiority, hag-ridden by all sorts of unpleasant emotions until ultimately he becomes the victim and prey of that thousand-devil monster—anxiety?"

"Well, there you are. All you know about ulcers is their pathology—their somatic pathology. It is about time you understood that we have a psychology also."

Claudius continued. "Let us consider the circumstances that surround the birth and early youth of an ulcer. In the matter of birth we have, on the whole, less to be ashamed of than our hosts for, according to the Scriptures, man is conceived in sin and born in iniquity. Some of us undoubtedly are also conceived in sin—the consciousness of wrong-doing—but most of us are not. Per contra, all of us are born in anxiety, a fact that you are not likely to dispute. Like our hosts none of us want to be born. Life, with us as with you, is thrust upon us. We are born as innocent as any crissom child. But, having been born, we have the same longing to feel secure, the same urge to live, as you have.

"In our early youth we are very naive. We are small, delicate, unsophisticated. We feel that we are not without our uses and, indeed, I am sure that you will not deny the fact that, by our ability to convert a psychic distress into a physical pain we actually are making things easier for our hosts. But do they think of that? No! They damn us in language unfit to hear. They try to put an end to us. Sooner or later down the hatch come the most objectionable mixtures. Two or three or four or six different kinds of alkalies separately or in combination. Things for stopping our friends the oxcyntic cells from aiding us. Other things to put our friend pyloric spasm out of business. Still other things to fill up our little craters and retard our normal growth.

"How would you like to be so treated? How would you react to such psychological slings and arrows? Would you not develop first anxiety and then the actions which anxiety begets? We can't convert our anxiety into a physical symptom. We

cannot even take refuge in flight for whither can we flee? To be sure we might and could and do try to flee, but we can do so only by digging deeper into the guts of our unhappy hosts. And when we do so we only make matters worse for ourselves because such extension and invasion leaves us larger, and the larger we become the more there is of us to be anxious.

"The only reaction possible for us is fight. We become aggressive. We form alliances that make more acid and tighten up the pylorus. We become "ornery" and no one should blame us. Did it ever occur to you to treat us kindly? Just recall what happens after you swallow a dose of good old soda bic. That is a drug we really like! There I lie smeared all over with magnesium, calcium, bismuth, aluminium, resins, methyl, cellulose and heaven knows what else. I feel positively filthy and naturally fall into a vile humour. Then comes a glassful of soda bic. in water and what happens? All around me is the most delightful fizzing. I feel as if I were in a bubble bath. It tickles me all over, puts me in the best of humours and I feel so kindly disposed towards my host that I immediately call off any cohorts and both of us pass a pleasant night or day as the case may be."

I was glad to get this first-hand explanation of the superiority of soda over all other alkalies—it was pleasing to the ulcer! "But," I said, "you give your host only a temporary respite. Have you found nothing that will so continually keep you happy that you will, well—quit?" "Alas," said Claudius, "much as at times we long for death we cannot die while our host continues to live. But if we are treated kindly at certain seasons we can be persuaded to advance our periods of aestivation and hibernation. Most often at these times we quit of our own accord—go on holiday—and then a lot of poor deluded individuals think that their latest medicine has "cured" them. You can't "cure" us! We refuse to be brow-beaten! After we have been on the job for a while we get callous and hardened both literally and metaphorically. We are not intimidated by the stuff you pour down your gullets. On the contrary, your pathetic and persistent efforts to knock us out amuse us, and we use them for our mirth, yea for our laughter. We are built to last longer than you are. Leave an ulcer alone and it will take its last bite hours after you are dead."

The arrangement of light and shade spread the wrinkled face into a larger and more leering grin. I knew the little blighter spoke no more than the truth. To believe that any pharmacological preparation could put him out of business was a delusion and a snare. But there he was before me, dead though yet speaking. I had beaten him. There was Balm in Gilead—surgical balm. So I smiled in turn and said, "My friend, you are dead and I am still living. There is at least one ele-

ment you cannot resist and that is iron in the form of sharp steel." "Yea, verily," answered Claudius. "When we see the light of day pouring upon us through an opened stomach, when we see steel flashing about us, then we give up the ghost. And with pleasure. It is no fun for us to be the victims of your aggression any more than it is fun for you to be the victim of ours. There was a time when we watched surgeons with interest knowing that they would do us little harm but now-a-days it is different. But, if we accept defeat, we accept it gracefully. And we retire with all the honours of battle for we went not beaten upon our own ground. We still can claim that we are unconquerable by all except the excisionist. Neither the old and simple remedies nor the new and bizarre ones affect us more than slightly—and never will! By the way I understand the scientists are now working on an extract obtained from fly-specks. They say it will work wonders. Ha, ha, ha. That's what they've said about everything yet devised—and all their wonderful remedies have proved to be broken reeds. No! Take it from me, the only thing a man gets to have and to hold till death does them part is an ulcer. And the only ones who can accomplish the death of an ulcer are the surgeons. To be sure their methods are crude and mechanical but they are effective. Provided, that is, that they don't go off at a tangent and try new fangled, unproven techniques. When they do we are likely to get postmortem revenge which, being post-mortem, we cannot enjoy.

If you really want to get rid of us try birth-control. Stop us before we start. The generation and gestation of an ulcer are lengthy processes. In that respect we are more remarkable than even Cleo's son—that Cleo, you know, who finally got relief at the Temple of Aesculapius. According to her ex voto she had been pregnant for five years and the doctors hadn't been able to help her. Judging from her experience and ours, doctors are remarkably inefficient persons! Anyway she got tired of visiting them and took herself off to Epidaurus to see the god. After the formalities had been complied with she "incubated"—spent the night in the temple—and in the "wee small hours" she was delivered of a bouncing boy. The ex voto does not say so but it is probable that he cut his own cord with his teeth. At all events he picked himself up, took his mother's hand and went with her to the river to rid himself of his vernix caseosa. When the news got around to her friends one of them sent her a message: "Congratulations Cleo. We all knew you had it in you!"

"With us gestation is even longer but is an on-and-off affair. We show up, practically disappear, show up again and finally stay. During that time the process can be brought to a halt. Keep us

from being born and you won't have to kill us." "That is a good deal easier said than done." I answered. "There are all sorts of things to be considered—constitution, diathesis, temperament and so on. But there can be no doubt that is where you must be attacked." "Exactly," said Claudius breaking into rhyme, "There are no ulcers in the womb. Nor should you find them in the tomb. Teach people—especially the young ones—how to direct their emotional forces into proper channels; teach them how to avoid anxiety or, at least, control it by healthier means; teach them how to rid their minds of the fears and hates and shames

which are the causae causantes of those inward strifes that are our begetters and progenitors. Do that and I promise you ulcers will become as rare as hen's teeth.

"And now, as I go upon my way to the garbage can and ultimate dissolution, I leave this message with you in the hope that through you others will learn what an ulcer thinks about. We are a miserable company and have no regrets when we hear the wings of Azrael or when a surgeon closes fast our eyes. Nor do I feel that I am a traitor to my tribe in giving you the secret of how we can be destroyed."



Professor I. M. Thompson Awarded Fellowship in Royal Society of Edinburgh

The friends of Professor Thompson (and they are many) will be delighted to learn that he has been awarded the signal honour of Fellowship in the Royal Society of Edinburgh.

For the past fifteen years Professor Thompson has been teaching Anatomy in a unique and practical manner. Prior to his time embryology and gross and microscopic anatomy had been taught as separate subjects. Professor Thompson integrated these into one subject so that development, minute structure and gross appearances are now considered as aspects of one whole.

A second departure from usual practice was the bringing of the cadaver into the sick room, or, to put it in less gruesome fashion, the bringing of anatomy to the bedside. For, to Professor Thompson, anatomy is not something that begins and ends in the dissecting room but is a living subject,

ignorance of which imposes a handicap upon the practitioner. In an effort to make this clear to students he makes use of radiology in their earlier years and of clinical cases in the clinical years. Thus he emphasizes the practical importance of holding in mind this basic science which so many students learn with difficulty only to forget with ease.

Not a little of what he teaches his students comes from the results of his own investigations most of which deal with the nervous system. His work upon the peripheral nerves, especially in regard to sensation, is widely quoted. He developed an electrical method of mapping the area of supply of certain cutaneous nerves, proved the variability of the cutaneous nerve areas of the forearm and hand and of their overlapping. He also discovered that whereas the total areas vary according to the normal type of probability curve, it is the logarithms of the overlaps that follow this type of curve. He showed how this knowledge could be applied in connection with peripheral nerve lesions.

He also investigated the effect of local ischaemia upon human nerve fibres; the electric masking of sensations, and the experimental demonstration that this occurs in the brain. Other studies were on the anatomical basis of the body image and of the localization of sensations; experimental anatomical research on the feeling of pressure, indicating that this is an integrated concept rather than a primary sensation.

He has further written about the evolution, development and anomalies of the septum lucidum; and his monograph on variations of the bile ducts and of the hepatic and cystic arteries is a standard work from which quotations are often drawn. From all this it is apparent that, in the hands of Professor Thompson, Anatomy is far from being a static science or something of concern only to first and second year students.

Ian Maclaren Thompson was given his first two names in honour of that Ian Maclaren who

wrote "Beside the Bonnie Brier Bush" and was a famous and favourite author. I have an idea that he reduces the first name to a letter because of the universal ignorance of the fact (in this matter all are ignorant except the Scots) that Ian is pronounced not I-an but E-an. Whether or not that is so he was born in Newfoundland in 1896 and got his schooling in Edinburgh. There he took his B.Sc. His subjects of study included Anatomy and Physical Anthropology. In 1920 he graduated with the degree M.B., Ch.B.

In 1917, while still an undergraduate, he joined the Royal Navy as Surgeon Probationer and served during the first attack upon a British convoy. In that action he was wounded and was also mentioned in despatches for his good work. After graduation he obtained an appointment in McGill University as Lecturer in Anatomy. Later he was advanced to the rank of Assistant Professor. While in Montreal he put into practice his ideas of Living Anatomy and applied them as Consultant in Anatomy at the Shriners' Hospital for Crippled Children and at the Children's Memorial Hospital.

In 1927 he left Montreal to accept an appointment as Associate Professor of Anatomy at the University of California. Later he was advanced to Professor of Anatomy and Chairman of the Division of Anatomy. He was also Consultant in Anatomy to the University of California Hospital in San Francisco. In 1937 he assumed the position of Professor of Anatomy in our own Medical College.

One would scarcely be surprised if a teacher of anatomy were to look and behave like an undertaker. After all, there must be a bit of necrophilia in both of them! But Professor Thompson's bright smile and cheery manner would win him no success as a mortician! Perhaps it is because he feels that he is teaching a living subject which he merely illustrates on his cadavers. Moreover his joie de vivre is reflected in his amusements one of which is the enjoyment of Gilbert and Sullivan for he is a most ardent Savoyard or Savoian or whatever you call a lover of the Savoy Operas.

And I think his interest in research has been stirred not a little by his interest in the History of Medicine. The biography of every great man ends with a mute "Go thou and do likewise." How, think you, would one feel who has sat in the same Anatomy Theatre that once echoed to the voices of the great masters Fabricius, Morgagni, Copernicus, Fracastorius, Harvey, Browne and a host of other immortals? The achievements of the past are the spur that drives men on to wrest still more of her secrets from reluctant Nature. Some of his thoughts upon the History of Medicine have been printed here and, we hope, there are more to come.

In addition to his most recent honour Professor Thompson has achieved many others. He is a Fellow of the Royal Society of Canada, a Fellow of the American Association for the Advancement of Science, and holds membership in the Anatomical Society of Great Britain and Ireland, the American Association of Anatomists and the Biometric Society.

He is a good teacher and a popular one; and, I am sure, he does not regard as least among his honours the Honorary Presidency of the Medical Students' Association which he held in 1942. Perhaps Professor Thompson may grieve at times when he realizes how much of their anatomical knowledge has leaked from the memories of his former students. If so, he disguises the fact completely. Each year he greets the unseen (the new class) with a cheer and is satisfied if he can impress upon the minds of those before him that anatomy is not dead but living.

—J. C. H.

Letter to the Editor

The Editor,
Manitoba Medical Review,
Medical Arts Building,
Winnipeg.

Dear Sir:

A review of the balance sheet of the Manitoba Medical Service for 1951 and a comparison of same with that of 1950 is a most interesting revelation of what has been accomplished in the last year.

Outstanding of course is the increase in volume of business, a fact which serves to accentuate the fact that Operating Expenses were in 1951, 9.1% of Income while in 1950 they were 11% of Income. This accomplishment calls for congratulations to our board.

Then the fact that we have a building under construction comes as a surprise to me, but I have probably been asleep at the switch and unaware of what was transpiring. If our operating costs can be held at anywhere near the levels of the last two years are we justified in embarking into real estate? And are we justified in such expansion when our Excess of Income over Expenses in the amount of \$128,085.27 is counterbalanced by a Subsidy from the medical members of \$582,763.19?

The annual need of such a subsidy to me means an unprofitable business and to my way of thinking our business is unprofitable because of over coverage on Plan B. Those of us who recall the address of Mr. Clements and his comprehensive graphs, will recall the need of our Southern neighbour, because of too liberal coverage, to remodel their system, within the limits of their income, and the success that followed their read-

justment. Is it not time we ceased to try to persuade a most appreciative group of contract holders that there is a Santa Claus and that we are He.

The coming year, if I am not too misinformed, will put our organization to the test and will, I trust, spell Success.

Yours truly,

J. F. Edward, M.D.

NRC Supports Orthopaedic Research

Canadian surgeons have contributed much to orthopaedic surgery; their success depends not only on skill and techniques, but on a sound knowledge of the development of bone, the natural alignments and proportions of the bony skeleton, and the reparative processes which follow damage. Work in this field is being supported by the Division of Medical Research of the National Re-

search Council.

Nine grants made in 1951-52 covered a broad range: from studies on the mechanism of bone formation in the fetus by Dr. L. F. Bélanger at the University of Ottawa, to effects of age on bone by Dr. D. H. Copp at the University of British Columbia; from a radiological study of the cervical spine in young adults by Dr. W. A. Jones at Queen's, to a study of variations in structure of the lumbosacral region of the spine, with reference to low back pain and sciatica, by Dr. R. I. Harris at the University of Toronto. Fracture of the neck of the femur has been the subject of studies by both Dr. R. I. Harris at Toronto and Dr. F. R. Tucker at the University of Manitoba.

The NRC's Division of Medical Research has no laboratories of its own but works entirely through grants in aid and fellowships tenable in university medical research schools and hospitals across Canada.

Medical Library

The University of Manitoba, Faculty of Medicine

Recent Accessions

The Medical Library will prepay all postage charges on Rural Manitoba Loans. There is therefore no charge to the Borrower either when the Loans are sent or returned.

General List

- Carter, C. W. and Thompson, R. H. S. *Biochemistry in relation to medicine.*
Longmans, Green, 1949. 442 p.
- Cleckly, H. M. *The mask of sanity.* 2nd ed.
Mosby, 1950. 569 p.
- Colebrook, Leonard. *A new approach to the treatment of burns and scalds.*
Fine Technical Publications, 1950. 174 p.
- Cox, Alfred. *Among the doctors.*
Christopher Johnson, 1950.
- Crohn, B. B. *Regional ileitis.*
Grune and Stratton, 1949. 229 p.
- Crosse, V. M. *The premature baby.* 2nd ed.
Staples, 1949. 270 p.
- Crowe, H. W. *Rheumatism.* 2nd ed.
Staples, 1949. 270 p.
- De Jong, R. N. *The neurologic examination.*
Hoeber, 1950. 1079 p.
- Dubos, R. J. *Louis Pasteur.*
Little, Brown, 1950. 418 p.
- Duchenne, G. B. A. *Physiology and motion demonstrated by means of electrical stimulation and clinical observation and applied to the study of paralysis and deformities.*
Lippincott, 1949. 612 p.

Engle, E. T. *Menstruation and its disorders.*

Thomas, 1950. 358 p.

Epstein, G. J. *Strabismus.*

Blakiston, 1948. 214 p.

Family service association of America. *A comparison of diagnostic and functional case-work concepts.*

The Association, 1950. 169 p.

Frank, L. K. *Society as the patient.*

Rutgers University Press, 1949. 395 p.

Friedberg, C. K. *Diseases of the heart.*

Saunders, 1949. 1081 p.

Fulton, J. F. *Physiology of the nervous system.* 3rd ed.

Oxford University Press, 1949. 667 p.

Gabriel, W. B. *The principles and practice of rectal surgery.* 4th ed.

Lewis, 1949. 508 p.

Glover, Edward. *Psycho-analysis.*

Staples, 1949. 367 p.

Goldberger, Emanuel. *Unipolar lead electrocardiography.* 2nd ed.

Lea and Febiger, 1949. 392 p.

Halliday, J. L. *Mr. Carlyle.*

Heinemann, 1949. 227 p.

Hamilton, Gordon. *Psychotherapy in child guidance.*

Columbia University Press, 1947. 340 p.

Harrison, T. R. *Principles of internal medicine.*

Blakiston, 1950. 1590 p.

Hartman, F. A. and Brownell, K. A. *The adrenal gland.*

Lea and Febiger, 1949. 581 p.

Hathaway, Mrs. Winifred (Phillips). *Education and health of the partially seeing child.*

Columbia University Press, 1947. 216 p.

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Social News

Reported by K. Borthwick-Leslie, M.D.

Big hearty handshakes to Dr. Wallace Grant, formerly Supt. of the Children's Hospital. A \$10,000 Rockefeller Foundation grant to our Medical Faculty has been allocated to Wally for use over a three-year period. Dr. Grant is completing a two-year post-graduate course at Yale where he has been working with Dr. Milton Senn.

He has been concentrating on the emotional needs of babies and children and will, thru teaching and research, put into practice his special line of work. He is expected back in Winnipeg Sept. 1.

Comment: I also see that Dr. and Mrs. Wallace Grant announce the birth of a son, Charles Duncan, April 22, in New Haven, Connecticut! How many does that make? Emotional studies like charity will have lots of material at home, Wally.

Mary G. Mathers, daughter of Dr. and Mrs. A. T. Mathers has been awarded a tuition scholarship in the advanced study of French at Smith College.

Another Manitoba graduate, Dr. S. B. Thorson (Winnipeg, 1942, 1945), of Calgary, made headlines in the C.M.A. Journal by the use of ACTH to control oedema prior to removal of a peanut from a child's throat, thus saving the kiddie's life.

Of interest to all his former military and civilian friends here is the appointment of Col. G. L. Morgan Smith, O.B.E., as Asst. Director of Medical Services at Headquarters 1st Commonwealth Division in Korea. He has just completed the Australian Staff Course.

Speaking of Australia—Russ Cleave and Cliff Abbott report a wonderful trip, and have promised me a full report of conditions, etc. In the meantime Cliff apparently took the "Downunders" by storm by outfishing them. He landed a 55-lb. Barracuda, using a 35-lb. test line to set a new record by 5 lbs.

Not satisfied with that he nonchalantly tossed around poisonous toads, or spiders or scorpions n'things that spit at one as though they were cute little toys, thus becoming the hero of the day.

Russ must have been very subtle in his approach as there so far have been no similar records of conquest, but of course, "Still waters run deep."

Dr. Gerda Allison and three children flew to New York and sailed on April 18 for Denmark, where Dr. Allison plans to take a course in child psychiatry at the University of Copenhagen. Dr. Gerard will join his family in June and all return together in August.

Marguerite and Elizabeth Hossack, daughters of Dr. and Mrs. J. C. Hossack, are also en route to Great Britain on a two-month holiday.

Oh! well, I get a kick out of drooling over other people's fun!

Dr. and Mrs. Wm. Chasney announce the engagement of their only daughter, Joan, to James Douglas Johnston, son of Mr. and Mrs. Jas. Johnston, Ottawa. The wedding will take place on May 14 in the Holy Ghost Church, Winnipeg.

Dr. and Mrs. D. Werden, Toronto, announce the engagement of Margaret Anne to James Perry Hurton, son of Dr. and Mrs. Roderick Hurton, Glenboro, Man.

Dr. and Mrs. Jack McKenty, Girton Blvd., announce the engagement of their only daughter, Betty Jane, to Wm. Tennant Wylie, son of Mrs. Wylie and the late John Wylie. The marriage will take place Saturday, June 7, in Harstone Memorial United Church.

St. Pauls United Church, May 2, was the scene of the marriage of Shirley Colburn and Dr. Douglas P. Walmsley.

Dr. and Mrs. Walmsley will reside in Bradford, Ont., following a wedding trip thru the U.S.A.

Mr. and Mrs. Geo. White, Dominion St., announce the engagement of Betty Joyce to Jack McKenty, son of Dr. and Mrs. Jack McKenty, Girton Blvd. The wedding will take place May 26, in the United College Chapel.

Golly it looks as though Jack and Mrs. Jack, Sr. are in for a busy spring both Juniors taking off on their own, practically days apart.

Welcome to our new babies.

Dr. and Mrs. R. A. Jacqués announce the birth of Robert Davidson, April 24th.

Dr. and Mrs. Howard Dixon, Santa Monica, Cal., announce the arrival of Mitchell Cameron, March 20th.

Dr. and Mrs. C. W. Smith announce the birth of Arnold James, April 15, Pincher Creek, Alta.

Dr. and Mrs. John Stevenson announce the arrival of Barbara Anne, April 15, in Vancouver. A sister for Bruce and Joan Jennifer.

Dr. and Mrs. J. B. Baker, Brandon, Man., announce the birth of Mary Ruth, April 25th.

Dr. and Mrs. Robert A. Polson announce the arrival of Catherine Anne, April 25th, in Winnipeg.

Dr. and Mrs. John B. Armstrong, Wildwood Park, announce the birth of a daughter, April 22, in Winnipeg.

Dr. and Mrs. M. G. Shapera of Flin Flon, Man., announce the birth of their son, April 13, in Flin Flon.

Dr. and Mrs. Gordon Geisler announce the birth of a son in Melville, Sask., April 14.

Dr. and Mrs. Joseph Leicester, announce the birth of Joan Maureen, April 21, at The Pas, Man., a sister for Sharon Gaye.

Dr. and Mrs. Earl S. Bryngelson, Kenora, Ont., announce the birth of Jan Rae, April 25th, in Kenora.

Dr. and Mrs. Donald G. Irving (nee Marion DeWolfe), Crystal City, Man., announce the birth of Barbara Frances, April 23.

Dr. and Mrs. J. R. Thomas (nee Doreen Patterson) announce the birth of their son, Brien Richard, April 30, in Niagara Falls.

It is with regret that I report the death of our old friend, Dr. W. Howden, of Neepawa. Those of us who worked with Bill and Peggy at different times, both in civilian and army life, sincerely express our sympathy to Peggy and the family.

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Toronto, Ontario

Manitoba Hospital Service Association

An Evaluation of Blue Cross and Blue Shield for the Medical Profession*

John W. Cline, M.D.

President, American Medical Association

Doctor Rourke's comment upon Doctor Schriver's introduction of him which Doctor Rourke said he had written himself recalls an experience I had many years ago as a medical student. In my third year, someone assigned me the job of introducing Professor Otto Folin to the new students when he was to extend a welcome to them.

Otto Folin was a remarkable individual, a man with a Scandinavian background who spoke with quite an accent and who had the additional handicap of facial paralysis. He was an unusually fine person and I was extremely fond of him. When I had completed my introduction he said, "That was a fine introduction but sounds more like an epitaph. That is the sort of a thing they put on tombstones." Doctor Schriver's kind introduction places me in a similar position.

Doctor Rourke said I would be at a disadvantage being between the Rourkes and the Sullivans, but there is a McCrory in my background. The greatest disadvantage I find in following Doctor Rourke is—and I have had to do so on a number of occasions—is that he usually says many of the things that I had intended to say and, therefore, I am compelled to revise my remarks in the light of what he has said.

The objectives of the medical profession, of course, as well known to all of you, are to maintain the highest standards of medical care and to continually improve those standards. More recently, the medical profession has had an additional objective and that is to supply the splendid medical care it can render on a basis which will make it more easily available.

Perhaps, from the standpoint of the medical profession, the greatest single result of the prepayment plans is to ease the financial burden of the patient in the event of serious illness.

Doctor Rourke has asked me to comment on the matter of earlier hospitalization and earlier treatment. I doubt that there has been a very marked change in the time lag in seeking medical care or hospitalization. In cases of emergency, prior to the days of prepayment plans, people usually sought and obtained satisfactory treatment in and out of hospitals. The other element, the considerable expense of hospitalization and the debt with which many patients were saddled at

the end of illness has largely been removed. As well as the practical aspect, there is an emotional satisfaction on the part of the patient. The patient appreciates the fact that he has protection against the cost of illness. Even though an occasional patient may be, as Doctor Rourke observed, inclined to abuse Blue Shield and Blue Cross coverage, the great bulk of people are not so inclined, and they appreciate the assurance which this coverage gives them.

I believe everyone who practices medicine realizes that an unworried and tranquil mind is an important element in recovery when one faces a serious operation or is currently beset by a serious illness. The Blue Shield and Blue Cross mechanisms have done a great deal to establish that peace of mind on the part of patients.

Also, we must realize that interest in and agitation for prepayment methods, whether by private enterprise or under governmental direction, has increased with the passage of time. The medical profession and the hospitals have had to have an answer, and a realistic answer, to the problem of distributing the costs of medical care. Of course, costs have risen for the reasons Doctor Rourke mentioned to you. They have risen also because of the expansion of diagnostic and therapeutic methods. The inflationary spiral in which our whole economy is caught at the present time has added very materially. Hospital costs have risen to a greater extent than have the costs of medical care. It is the per diem rate of hospitalization which has increased the most but the duration of hospitalization has been shortened considerably with the result that the average hospital costs have risen relatively little. The level of medical fees has not kept pace. A recent review of the records of one hospital in San Francisco showed that in the past year there has been a reduction of one-half day of hospital stay per admission.

The increasing interest in health and medical care and rising prices has created an increasing demand on the part of the public for methods of financing hospital and medical costs. In addition, we must recognize that this demand probably is going to continue to grow. As a profession, we have been largely responsible for this situation. We recognized that prepayment methods were necessary for our people and unless we supplied them, the Government would step in to supply them.

Adequate prepayment plans are the greatest bulwark against the socialization of medicine and the socialization of hospital services in this country. At times we, who are close to a picture, may not see it in its entire detail. It may require a

*An address delivered at the Annual Conference of Blue Cross and Blue Shield Plans, Fairmont Hotel, San Francisco, California, April 2, 1952.

little greater distance from the picture to obtain the proper perspective.

In the past two years I have traveled extensively over the country and have been in most states. As a consequence, I have met many people. I have desired to ascertain from various individuals, not associated with hospital or medical care, their ideas concerning the importance of the voluntary health insurance programme. I have talked to people of widely divergent political, social, and economic beliefs. These include a number of Senators and Members of Congress, a number of public relations experts, a number of labor leaders, and some people who have, I believe, very well deserved, left wing reputations as well as extreme conservatives. There has been unanimity of opinion that unless our voluntary schemes fulfill the needs and the desires of the people of this country to the greatest extent possible within the limits of reality it will provide Government with the excuse to intrude itself into medical care.

The medical profession always has recognized that the individual physician has a dual responsibility to his patient: to render the best medical care of which he is able, and simultaneously to treat his patient fairly in every respect. The latter applies particularly to the economic aspect of medical services. Most physicians have understood this and accepted it. It seems obvious to me that the profession has a similar responsibility to the people as a whole and that methods of budgeting their medical care are essential.

It may be observed, and it has in the past when I have made this statement, that the medical profession has no greater responsibility in that regard than has any other segment of society to see that its essential services are supplied on a similar basis.

The traditions of the medical profession always have been those of service. It is in keeping with those traditions that we should assume this responsibility. In addition, our own enlightened self interest certainly dictates that we do.

Doctor Rourke sketched the development of voluntary health insurance briefly, the growth and expansion which have taken place, and the great service it has rendered to the public, as well as some of the changes it has produced in hospitals. I am convinced that we must expand and improve our voluntary health insurance mechanisms. Expansion means numbers. It means an inclusion of certain groups which do not yet have adequate coverage. This applies particularly to some rural areas of the country and to certain groups of the population. We must make steps to expand in those directions.

We must improve our plans progressively but it is not equally certain the direction which the improvement should take. It is entirely possible

that many plans have stressed minor illness to too great an extent, and perhaps have neglected to some degree more extensive coverage, particularly in the catastrophic field. It may be that we started initially in the wrong direction and we may have to revise our thinking after a certain period of time.

The multiplicity and the elasticity of our plans results in healthy experimentation and, as Doctor Rourke said, the evolution on the whole has been an orderly one. Some plans resemble others closely, others differ widely. Some plans provide much more extensive coverage than others and different patterns of development can be found. The experience thus gained and studied will produce ultimately the answer as to the most desirable and workable type of coverage.

It often surprises me to observe the assurance with which certain people express themselves concerning the exact course our plans should follow. It seems to me that this whole field is so new and there have been so many developments which we did not foresee, that one cannot be dogmatic about the future. While I never have participated in the administration of California Physicians' Service, I did have something to do with its creation. I have been a firm supporter of California Physicians' Service, and I have watched it, perhaps, with more interest than most.

When it started there was no background of actuarial experience upon which to base its operations. It began with the assumption that it was required to produce a variety of coverage which was in prospect in a State plan of socialized medicine. It was assumed, also, that a certain premium would cover certain services. Before corrections were made the plan became almost insolvent because the original assumption had been erroneous. As time passed on it was necessary to limit coverage and increase rates. The coverage is still extensive and the rate structure is satisfactory.

This experience and that of other plans makes it likely that a co-insurance feature may be necessary in our type of coverage. When one entirely eliminates individual patient responsibility, the difficulties and the abuses of any plan multiply. It may be that in the future our course will be one toward additional co-insurance. That would be objectionable to many people. It certainly is objectionable in the lowest income groups. On the other hand, it may be the ultimate solution to the financial solvency of our plans.

Doctor Rourke referred to the abuse of diagnostic facilities. I believe the average physician practices in much the same manner whether the patient is financing his own care or whether he has insurance coverage. The element of abuse probably is not as great as believed by some. The

increased familiarity of patients with various diagnostic procedures causes some of them to request procedures which may be of no particular value in their cases. Occasionally, it is difficult to overcome the desire of the patient for some variety of investigation which is not needed and would add nothing to his care.

These considerations pose problems, and some are serious to the future of voluntary insurance and will require careful thought. The field is young and as time goes on the answers to many of these problems will be found. They will not be found by arbitrary action on the part of any individual or group. They are not simple problems and there is no simple answer. The rapidity of growth has produced many problems of itself. There are problems of administration resulting in confusion and delay. There is a problem of rising costs arising from increased use and inflation.

At this time I should comment upon the bad recent publicity with reference to California Physicians' Service. You gentlemen will be going to your homes all over the country and I think you should have information which was not included in a certain periodical article or some of the newspaper accounts.

Out of some 11,500 physicians serving California Physicians' Service, the investigation revealed that about 200 probably were abusing the plan. Perhaps, "over using" might be a better term. Out of that whole group there were two or three instances of what appeared to be—and I do not possess the full evidence—actual fraud. In one instance it is reported that a physician billed the Service for an operation which he did not perform. In another instance, a physician is said to have performed a simple operation and billed the Service for an operation of much greater magnitude which carried a much higher fee. I am informed that in one case fraud has been established. The others are in the process of investigation but the initial evidence indicates that they will fall into the same classification.

The County Medical Association has already proceeded against in the first instance. The offender, if found guilty, will be disciplined to the full extent possible which is loss of his membership. Already the State Board of Medical Examiners has been apprised of this physician's supposed misconduct and if the evidence justifies action, his license probably will be revoked on grounds of moral turpitude.

After that the District Attorney of the County and perhaps the Federal District Attorney will be supplied with the evidence and criminal prosecution may be instituted. The decision lies without the scope of the medical profession but the medical profession cannot and will not tolerate that variety of conduct on the part of any physician.

The publicity has had a serious initial effect

upon the medical profession and upon the Blue Cross and Blue Shield Plans all over the country. In the end, I believe the net result will be good. The medical profession is determined to see that our prepayment plans are properly protected from unscrupulous physicians and that those who infringe the code of ethics will be disciplined. This will strengthen the programme and build public confidence in the prepayment plans.

The inflationary trend and the increased desire to use the plans have resulted in increases in rates. The public dislikes any increase in rates. An individual who had had extensive experience with prepayment plans and with labor told me that the proposal of an increase of twenty-five cents per month had produced serious repercussion within one union. The public does not yet understand the real purpose of these plans and does not understand that it must pay for what it gets. It has not come to recognize that if the use of the plan increases beyond expectation and if the cost of operation of the plan increases because of the inflationary spiral, the public must bear that cost in increased rates. It is a matter of simple arithmetic but many people ignore that fact through ignorance of the facts or desire. These attitudes can be overcome only by education.

There are other misunderstandings which arise concerning the extent of insurance coverage. When I say "insurance" I include Blue Cross and Blue Shield because while technically they are not insurance but service plans, they are based upon the insurance principle. Representatives of these plans and insurance companies programmes have oversold the plans to the purchaser and guaranteed benefits which the policies did not include. It is natural for anyone to feel abused when he has been misled in the purchase of a plan for prepayment.

There is another factor which is much more common. There are probably few men in this room who have read the fine print of their own insurance policies. People tend to believe what they desire to believe. Most of them desire the fullest coverage possible and may mislead themselves into believing they have complete protection. That produces an element of friction and criticism on the part of the subscriber who finds his benefits are limited under a plan he has purchased.

There is some irritation to the profession resulting from certain aspects of our prepayment plans. Part of these arise out of legitimate objections to certain features of some plans. Others come from misunderstanding. There are understandable reasons why certain physicians object to some of the methods employed by the Blue Cross and Blue Shield Plans, and my knowledge of the national situation leads me to believe that this condition is not limited to any one area.

The support of these programmes in some areas is spotty. In most places there is good majority support but many physicians object to a rigid fee schedule of any sort. It is less the actual level of fees than the mere fact that fees have been set. From time to time there is a tendency of certain administrators to try to establish policy for the plans. Occasionally, there is a failure of tact in the manner in which the plans deal with the physicians. I heard recently in the staff room of a hospital of three instances of complaint against one of our plans. I believe all were the result of a failure of tact on the part of administrative personnel. Our plans have a responsibility to the physicians who serve them as have the physicians to the plans. This is sometimes overlooked. The public relations of prepayment plans suffer when a physician is needlessly offended. Physician support is essential to continued success.

In the national Blue Cross contract for steel workers and perhaps others, unless it has been recently removed, is another source of irritation. In this contract there is the provision for payment for anaesthesia only when the service is rendered by an employee of the hospital. This is an infringement upon the practice of medicine and deprives the patient of benefits he should receive if his anaesthetic is administered by a qualified physician anaesthetist. Here is a provision which offends the profession and the subscribers alike. Its elimination would do a great deal to get rid of one unnecessary source of irritation.

The practice of medicine is the practice of medicine whether it is in or out of a hospital and must be so regarded. The medical profession will be adamant on this point. It will not permit Blue Shield, Blue Cross Plans or hospitals to practice medicine. The privilege to practice medicine is one which is conferred by the State upon a natural individual after he has completed certain courses of study and successfully passed certain examinations. It cannot be conferred upon any corporation or artificial person. If they are to have firm support from the medical profession our plans must recognize and respect the rights of medicine, legally and morally.

As I mentioned earlier, there are many problems in our prepayment plans. As one problem

disappears others probably will appear but I believe that the more serious and more difficult ones will be ironed out fairly shortly and the remainder will be easier of solution.

We all realize the importance to the people of this country of the maintenance of strong Blue Shield, Blue Cross organizations. We also realize their importance to the medical profession and to the hospitals. If we are to preserve for patients, for hospitals and for physicians the freedom essential to progressive elevation of standards we must prevent governmental interference in our practice of medicine and in the operation of hospitals. The history of the world demonstrates very clearly that whenever and wherever socialized medicine has come into being it has meant deterioration in the quality of medical care. In England it has also meant deterioration in the operation of hospitals.

Therefore, if we are to fulfill our primary function, which is that of rendering the best medical care possible to the people of this country, we must maintain the greatest bulwark we have against the intrusion of government into the field of medical and hospital care. Deterioration in quality is inherent in such intrusion by government. That, I believe, is becoming more widely recognized by the profession and by the public. I believe we can count on progressively greater support of the Blue Shield, Blue Cross Plans by the medical profession as time goes on. I believe the same can be said of public support.

This belief is supported by a recent experience, about six months ago. I visited a state which has one of the oldest and finest Blue Shield-Blue Cross plans in the country. I was dismayed to find that only 8 per cent of the physicians in one county served the combined plans. In the past six months this situation has improved materially.

The increasing awareness of the importance of these plans to public welfare and to the preservation of high standards of hospital and medical care will produce more and more support for them. The plans must assume their responsibilities to the public and the profession and those who serve and those who benefit must accept their responsibilities. This is the key to continued success.

Association Page

Reported by M. T. Macfarland, M.D.

Letter

Dr. M. T. MacFarland,
Executive Secretary,
Manitoba Medical Association,
604 Medical Arts Building,
Winnipeg, Man.

Dear Sir:

We wish to draw your attention to a difficulty arising out of the operation of the King George Hospital. This is that a considerable number of physicians have the impression that treatment of infectious disease cases in this hospital is free. Actually it is free only to those who have legal residence in the City of Winnipeg.

Since nearly all admissions to that Hospital are "emergency" ones, we receive admission notices and bills for practically all our residents who have the misfortune to be ill enough to be sent there. Then when we, in turn, bill the person responsible for the hospital bill we are too frequently met with the statement that "our doctor told us it would not cost us anything." We then have the task of convincing the person that the doctor did not know the facts.

Actually, a doctor should know something of residence rules in order to avoid sending cases to the King George Hospital which might, for financial reasons, be treated at home were he aware that the patient was not legally a resident of the City.

On the assumption that your Association issues a periodical to its members we would like to suggest that it contain a reminder to its readers that the King George Hospital is "free" only to those with legal residence in the City.

Yours very truly,

(Signed) F. McConnell,
Secretary-Treasurer.

District Meetings

A meeting of the North of 53 District Medical Society was held at Flin Flon, Manitoba, on March 19th, 1952, at 8 p.m.

Present: President, Dr. Percy Johnson, Flin Flon; Vice-President, Dr. Joseph Leicester, The Pas; Secretary, Dr. Glenn Willson, Flin Flon; Guests, Dr. A. McGregor, Sherridon; Dr. L. Jacobs, The Pas; Dr. A. Gibson, Winnipeg; Dr. C. B. Stewart, Winnipeg; Dr. A. M. Goodwin, Winnipeg.

The President, Dr. Percy Johnson, occupied the chair and extended a warm welcome to the guests on behalf of the Society.

Dr. Gibson, the first speaker of the evening, was then introduced and he gave a short, precise and very informative lecture on low back pain.

The second speaker, Dr. C. B. Stewart, was introduced to the meeting and presented a practical summary of traumatic lesions of the urinary tract.

The final speaker, Dr. A. M. Goodwin, President of the Manitoba Medical Association, was introduced and he, in turn, gave the assembled members and guests some pertinent facts concerning the parent Association.

Dr. C. Crawford of The Pas, Manitoba, was elected by the Society as District Representative to the Manitoba Medical Association.

Officers for the coming year were then elected as follows:

President, Dr. Joseph Leicester; Vice-President, Dr. H. L. McNicol; Secretary, Dr. L. Jacobs.

The meeting was then adjourned.

A. N. Willson, Secretary.

A Dinner Meeting of the Central District Medical Society was held in the Portage Hotel, Portage la Prairie, on March 25th, 1952.

Present: Doctors George M. Black, Chairman; G. H. Hamlin, G. C. Fairfield, C. M. Thomas, J. W. Kettlewell, J. C. Rennie, I. B. Thomson, H. H. Wenger (visitor) and J. A. Eadie of Portage la Prairie; M. Koziol of MacGregor; J. M. Bowman of Oakville; Brian D. Best, Murray McLandress, A. M. Goodwin and M. T. Macfarland of Winnipeg.

Following reception and dinner at the Portage Hotel, the meeting was convened in the auditorium of the General Hospital.

Dr. Murray McLandress spoke on the Diagnosis of several Paediatric Conditions, and Dr. Brian Best spoke on Hormonal Treatment in Gynaecology.

Dr. A. M. Goodwin discussed Association interests, including Manitoba Medical Service and negotiations with the Workmen's Compensation Board.

International College of Physical Medicine—The Congress will be held in London, Eng., from the 14th to the 19th of July, 1952. Applications for the Provisional Programme should be addressed to the Honorary Secretary, International Congress of Physical Medicine (1952), 45 Lincoln's Inn Fields, London, W.C. 2, Eng.

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Department of Health and Public Welfare Comparisons Communicable Diseases — Manitoba (Whites and Indians)

DISEASES	1952		1951		Total	
	Feb. 24 to Mar. 22, '52	Jan. 27 to Feb. 23, '52	Feb. 25 to Mar. 24, '51	Jan. 28 to Feb. 24, '51	Jan. 1 to Mar. 22, '52	Jan. 1 to Mar. 24, '51
Anterior Poliomyelitis	0	0	0	0	0	0
Chickenpox	127	115	113	145	380	433
Diphtheria	0	0	1	2	1	4
Diarrhoea and Enteritis, under 1 yr.	12	7	4	14	20	20
Diphtheria Carriers	0	0	0	1	0	1
Dysentery—Amoebic	0	0	0	0	0	0
Dysentery—Bacillary	4	1	4	2	5	7
Erysipelas	1	1	1	2	5	4
Encephalitis	0	0	0	0	0	0
Influenza	10	5	400	85	20	489
Measles	88	78	366	519	312	1207
Measles—German	2	3	2	13	5	18
Meningococcal Meningitis	4	0	3	3	4	6
Mumps	153	182	173	193	486	512
Ophthalmia Neonatorum	0	0	0	0	0	0
Puerperal Fever	1	0	0	0	1	0
Scarlet Fever	81	57	101	114	205	275
Septic Sore Throat	11	9	1	1	21	6
Smallpox	0	0	0	0	0	0
Tetanus	1	0	0	0	1	0
Trachoma	0	0	0	0	0	0
Tuberculosis	58	42	54	59	127	140
Typhoid Fever	0	0	0	0	0	0
Typhoid Paratyphoid	0	0	0	0	0	0
Typhoid Carriers	0	0	0	0	0	0
Undulant Fever	0	0	1	1	0	2
Whooping Cough	25	62	39	42	118	104
Gonorrhoea	92	88	77	85	273	276
Syphilis	8	10	8	26	26	46
Jaundice (Infectious)	4	4	0	0	10	0

Four-Week Period February 24th to March 22nd, 1952

*DEATHS FROM REPORTABLE DISEASES For the Month of March, 1952

DISEASE (White Cases Only)	*771,815 Manitoba	*861,000 Saskatchewan	*3,825,000 Ontario	*2,952,000 Minnesota
*Approximate population				
Anterior Poliomyelitis	—	3	1	1
Chickenpox	127	210	2151	—
Diarrhoea & Enteritis under 1 year	12	—	—	—
Diphtheria	—	1	1	11
Diphtheria Carriers	—	—	—	—
Dysentery—Amoebic	—	1	—	5
Dysentery—Bacillary	4	7	9	14
Encephalitis Epidemica	—	1	—	—
Erysipelas	1	3	6	—
Influenza	10	3	40	11
Infectious Jaundice	4	—	61	38
Measles	88	673	2067	150
German Measles	2	58	627	—
Malaria	—	—	—	1
Meningitis Meningococcal	4	—	7	5
Mumps	153	467	2767	—
Ophthal. Neonat.	—	—	—	—
Puerperal Fever	1	—	—	—
Scarlet Fever	81	209	252	219
Septic Sore Throat	11	28	1	53
Smallpox	—	—	—	—
Tetanus	1	—	—	—
Trachoma	—	1	—	—
Tularemia	—	—	—	2
Tuberculosis	58	28	95	211
Typhoid Fever	—	—	4	—
Typh. Para-Typhoid	—	—	—	—
Typhoid Carrier	—	—	—	—
Undulant Fever	—	—	—	—
Whooping Cough	25	58	100	10
Gonorrhoea	92	—	195	—
Syphilis	8	—	81	—

Urban—Cancer, 53; Influenza, 2; Pneumonia, Lobar (490), 2; Pneumonia (other forms) (491-493), 8; Pneumonia of newborn (763), 1; Tuberculosis, 2; Diarrhoea & Enteritis (571.0), 1; Diarrhoea of newborn (764), 2. Other deaths under 1 year, 21. Other deaths over 1 year, 221. Stillbirths, 10. Total, 252.

Rural—Cancer, 24; Influenza, 4; Measles, 1; Pneumonia, Lobar (490), 2; Pneumonia (other forms) (491-493), 20; Syphilis, 1; Tuberculosis, 7; Whooping Cough, 2; Streptococcal Sore Throat (051), 1; Tetanus (061), 1; Diarrhoea & Enteritis (571.), 1; Diarrhoea of newborn (764), 1. Other deaths under 1 year, 16. Other deaths over 1 year, 150. Stillbirths, 18. Total, 184.

Indians—Influenza, 1; Pneumonia (other forms) (491-493), 1; Syphilis, 1. Other deaths under 1 year, 1. Other deaths over 1 year, 1. Stillbirths, 2. Total, 4.

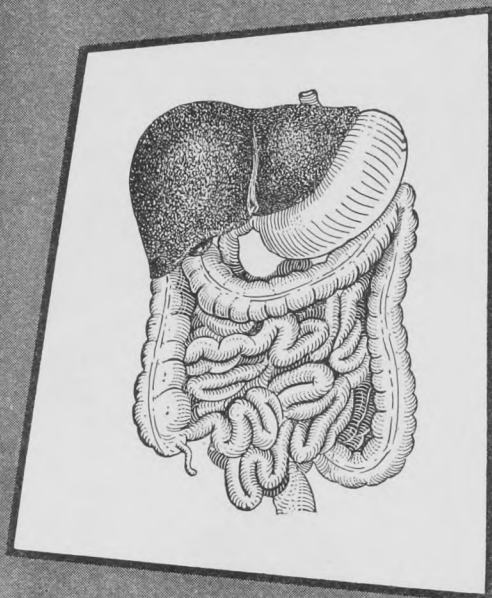
Chickenpox and Mumps are quite prevalent in many areas.

Measles—Plenty, but not so many as last year at this time.

Scarlet Fever incidence continues fairly high. In some districts there are cases of **Septic Sore Throat** along with it.

Venereal Diseases—Gonorrhoea remains about the same level as for some time but syphilis continues to show a definite decrease. Please report all cases promptly.

Rabies in Animals is quite common in Minnesota and also fairly common in North Dakota. Skunks are one of the animals affected. We should be on the watch along our southern border.



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College of Physicians and Surgeons of Manitoba

Registration Committee November 21, 1951

Student Registration Granted

John Michael Trainor, B.A., U. Man., 1951; 1st year medicine McGill U.

Enabling Certificates Deferred

Jacob Katz, M.D., U. Bratislava, 1923.

Josef Strohhofer, M.D., U. Munich, 1932; M.D., U. Greifswald, 1938.

Wojciech-Janusz Poznanski, M.D., U. Brussels, 1949.

Elizabeth Kolesnichenko, M.D., U. Charkow, 1941.

Aart Schaberg, M.D., Leiden U., 1946.

Wasył Zajcew, M.D., U. Berlin, 1943.

Enabling Certificates Granted

Zbigniew Tadeusz Kubinski, M.B., B.S. U. Warsaw, 1937.

William Y. L. Chen, M.D., National Sun Yat-Sen U., 1938; M.P.H., Johns Hopkins U., 1947.

Paul Peter Mari, M.D., l'Aurore U., 1946.

Certificates of Registration Granted

Gerald Patrick Beazley, L., L.M., R.C.P. Irel., 1941; L., L.M., R.C.S. Irel., 1941.

James Hendry, M.B., Ch.B., U. Aberdeen, 1947.

Margaret Moir Goudie, M.B., Ch.B., U. Glasgow, 1932.

Gunther Semelka, M.D., U. Innsbruck, 1947; L.M.C.C., 1951.

Certificates of Licence Granted

Norval Roy McGregor, M.D., U. Western Ontario, 1950; L.M.C.C., 1950.

John Bower, L.A.H., Dublin, 1946; L., L.M., 1948, R.C.P. Irel.; L., L.M. 1948, R.C.S. Irel.

Harold Geoffrey Cooper, B.Sc. (Hons), U. Birmingham, 1947; M.B., Ch.B., U. Birmingham, 1950; M.R.C.S., England, 1950; L.R.C.P., London, 1950.

Alexander Eric Wilson Morton, M.B., Ch.B., U. Glasgow, 1950.

William Elmer Warwick, M.D., C.M., Queen's U., 1951; L.M.C.C., 1951.

Specialists Committee December 21st, 1951

A meeting of the College of Physicians and Surgeons Committee to set up a Specialist Register was held at 12.30 p.m., in the small dining-room, 7th floor, Medical Arts Building, on Friday, Dec. 21, 1951.

Present were: Dr. C. H. A. Walton, Chairman, C.P. & S.; Dr. F. K. Purdie, C.P. & S.; Dr. F. G. Allison, M.M.A.; Dr. M. R. MacCharles, M.M.A.; Dr. B. D. Best, Faculty of Medicine, U. of Man.; Dr. N. L. Elvin, Faculty of Medicine, U. of Man.; Dr. M. T. Macfarland, Registrar, ex-officio.

The Chairman outlined the purpose of the committee was to carry out the provisions of the

Specialist Register By-law passed by the C.P. & S. Council at the Annual Session on October 13th, 1951, and notified to the profession on page 681 of the Manitoba Medical Review, volume 31, for December, 1951. Regulations and application forms of other provinces were reviewed.

It was agreed: 1. That the notice be repeated, and that attention might be called to the notice in other parts of the Review to ensure prompt action on the part of eligible applicants.

2. That, as a standard for entry of a name on the Specialist Register, the credentials of any applicant should be considered as being at least equivalent to that of one of the specialties of the Royal College of Physicians and Surgeons of Canada.

3. That the printed application form to be used conform to the arrangement outlined as follows:

College of Physicians and Surgeons of Manitoba

Specialist Register Application

I, _____

Christian Names (Name in full) Surname

Address: Residence _____

Business _____

hereby apply to have my name entered on the Specialist Register maintained by The College of Physicians and Surgeons of Manitoba in accordance with The Medical Act, being Chapter 130 Revised Statutes of Manitoba, 1940, as amended, and By-law of the College passed by Council on October the thirteenth, One thousand, nine hundred and fifty-one.

Major Specialty _____

Minor Specialty _____

I was Fully registered with The College of Physicians and Surgeons of Manitoba on the _____ day of _____, Nineteen hundred and _____ and am in Good Standing at this date.

My qualifications are:

Pre-Medical _____

Medical _____

Post-Graduate _____

Royal College of Physicians and Surgeons of Canada: _____

Fellowship: Yes _____ No _____

Certificated: Yes _____ No _____

Certificates, Degrees or Diplomas _____

My practice is now totally _____ partially _____ restricted to the specialty named.

Fee—Five Dollars (\$5.00)—payable at par in Winnipeg.

Date

Signature

4. That application and fee be submitted in each case rather than sending a form to all known fellows or certificated specialists of the Royal College of Physicians and Surgeons of Canada.

5. That holders of Royal College of Physicians and Surgeons of Canada qualification be entered automatically by the Registrar, and that other applications be placed before the whole committee on call of the Chairman.

Executive Committee January 22nd, 1952

A meeting of the Executive Committee was held in the Medical Arts Club Rooms, on Tuesday, January 22nd, 1952, at 1 p.m.

Present: Dr. C. B. Stewart, Chairman, Dr. Ed. Johnson, Dr. B. D. Best, Dr. F. K. Purdie, President, ex-officio, and Dr. M. T. Macfarland, Registrar.

1. Business Arising From Annual Council Meeting, October 13, 1951

A. Amendments to the Medical Act

(a) Discontinuation of Internship Year

The amendments to the Medical Act regarding discontinuation of the internship year before graduation in medicine were approved in principle by the Council, and referred to the Executive Committee prior to introduction to the Legislature.

A letter under date January 5, 1952, from the Secretary of the Medical Faculty, University of Manitoba, was presented, enclosing excerpts from the minutes of a meeting of the Medical Faculty Council Executive held December 28, 1951.

"The Dean then read the Secretary's submission regarding proposed changes in the Medical Act, to require a year of internship.

"Considerable discussion followed, in which it was pointed out that, if the amendments were passed, they might tie the hands of the Medical Faculty at some future date, if it were decided that a period of preceptorship might be substituted for part of the internship. Dr. Chown also mentioned the possibility of requiring internship in the fourth year, as the course is currently set up. The possibility of denuding the hospitals of internes was again mentioned. The Dean stated that the President preferred that we move slowly in any action which might affect the hospitals. It was stated that in Alberta, 50% of the graduates are applying for internships to the United States. It was generally considered that our controlled internship was an exceedingly valuable feature of the course, and particularly so, since this is primarily a school for general practitioners.

"Therefore, it was approved 'That action on granting the degree at the end of the fourth year be postponed for further consideration.'

"Dr. _____ suggested permissive legislation regarding the internship, somewhat to the effect that the College of Physicians and Surgeons of Manitoba be given power to make regulations from time to time regarding internship or equivalent training.

"It was approved 'That the amendments referred to us for approval by the College of Physicians and Surgeons of Manitoba be postponed, and that Dr. _____ suggestion be forwarded to the College of Physicians and Surgeons of Manitoba.'

"It was then approved 'That the matter of granting the M.D. degree at the end of the fourth year be referred back to the original committee, with replacements named by the dean, for reconsideration.'

It was agreed by the Executive Committee that this matter should be postponed.

(b) Electoral Districts

The amendments to the Medical Act regarding the new electoral districts were accepted by Council. The question arose whether it would be wise to open the Act this year for the purpose of amending electoral districts only. It was pointed out that this is election year, and the new Council would be elected for a period of three years. It was agreed that this matter should be postponed until more widespread changes in the Medical Act were being made.

Motion: "THAT no action be taken to implement the amendments to the Medical Act which were proposed at the October meeting of Council." Carried.

B. Specialist Register

The Registrar advised that the Specialist Committee had met December 21, 1951, to make arrangements for the setting up of the Specialist Register. He presented a copy of the application form to be used.

He also advised that according to the By-laws, Rules and Regulations, the same amounts paid to members of Council "shall be paid to members outside the Council when representative on any committee."

It was agreed that the representatives from the M.M.A., and Faculty of Medicine Executive, who are not members of Council be paid for their attendance at the meeting of the Specialist Committee, December 21, 1951.

C. Letter of Thanks From the Medical Library Committee

The Registrar presented a letter from the Chairman, Medical Library Committee, acknowledging with thanks the cheque for Seven Hundred and Fifty Dollars (\$750.00) from the College. The letter stated that with the continued increase in the cost of books, periodical subscriptions and binding, this amount will be required more than ever before.

D. Liaison Committee, M.M.A. & C.P. & S.

Dr. Best advised a meeting of the Liaison Committee had been held October 25, 1951. He stated it had been difficult to decide the financial responsibilities of the two organizations, and after much discussion had arrived at the following conclusions:

The Liaison Committee of the College of Physicians and Surgeons and the Manitoba Medi-

cal Association have agreed on the set up of the combined business office and submit to their respective Executives for approval as follows:

1. The College of Physicians and Surgeons shall pay Dr. M. T. Macfarland, Registrar of the College, an amount to be determined by that body.

2. The College of Physicians and Surgeons shall employ and pay for such secretarial services as are required by that body, but shall at all times endeavour to maintain a proper balance of salaries for employees in the combined office.

3. Should it become advisable at any time, the duties of one stenographer might be divided between the two organizations, and payment might be pro-rated between the College of Physicians and Surgeons and the Manitoba Medical Association.

4. To cover rent, light, phone, business tax, and other common expenses, the College will pay to the Manitoba Medical Association approximately 40% being, for the present, Eighty Dollars (\$80.00) each month, commencing October 1, 1951.

5. Each organization will maintain an inventory of its office equipment, and its share of jointly-owned equipment.

6. It is recognized that adjustments in this set up will be required from time to time and it is suggested that the Executives of both bodies empower their respective Liaison Committees to do this without further reference to the Executive when the changes involve only minor adjustments, and cannot wait until the next Executive meetings.

Motion: "THAT the report of the Liaison Committee, M.M.A. & C.P. & S. be accepted by the Executive Committee, and that the report be referred to Council." Carried.

The Registrar reported that Miss _____ has been working practically full time for the C.P. & S., utilizing M.M.A. desk and typewriter, and has been paid the sum of One Hundred and Fifteen Dollars (\$115.00) per month by the M.M.A. He added that with the alterations to the office, there was now room for another desk and stenographer, who would work for the M.M.A.

Motion: "THAT the Treasurer be empowered to reimburse the Manitoba Medical Association for salary paid to Miss _____ from October 1, 1951, to May 1, 1952, if necessary, and that the matter be brought before the Council meeting in May." Carried.

E. The Manitoba Medico-Legal Society

The Registrar reported preliminary meetings had been held between the College of Physicians and Surgeons of Manitoba, the Manitoba Medical Association, the Manitoba Bar Association, and the Manitoba Law Society, to set up the Manitoba Medico-Legal Society. He presented a copy of the "Articles of Association and Rules Regulating the Manitoba Medico-Legal Society." The first general meeting will be held this evening, January

22nd, 1952.

Motion: "THAT the procedures followed and arrangements made concerning the Manitoba Medico-Legal Society be approved by the Executive Committee." Carried.

2. New Business

A. Life Membership

The Registrar advised there were two registrants who were eligible for life membership under the resolution of Council, October, 1930 (65 years of age, and practised 30 years in the Province), but they had not paid any annual fee during the time they were on military service during the last war.

The Committee agreed it would be in order to grant life membership to these registrants, since a motion was passed by Council in May, 1941, exempting members of the armed forces from paying the annual fee during the time they were in the forces.

B. Annual Fees—Armed Forces

The Registrar presented a letter from a registrant who is a member of His Majesty's Permanent Forces, stationed outside of Manitoba, inquiring whether he would be expected to pay the annual fee to the College.

Motion: "THAT the Registrar reply to this communication advising he will not be obliged to pay the annual dues for 1952, and bring the question to the May Council Meeting." Carried.

Finance Committee

February 17, 1952

A meeting of the Finance Committee was held at 12.30 p.m. on Sunday, February 17th, 1952.

Present: Dr. T. H. Williams, Chairman, Dr. B. Dyma, Dr. C. W. Wiebe, Dr. C. E. Corrigan, Vice-President, ex-officio, and Dr. M. T. Macfarland, Registrar, ex-officio.

Dr. F. K. Purdie, President, was contacted by long distance telephone, and the matters under attention discussed with him by the Chairman.

1. At the beginning of the meeting, the Treasurer gave a detailed account of our present commitments for salaries and office rental and expected expenses for the present year. These are estimated at Twelve Thousand, Two Hundred and Five Dollars (\$12,205.00), with some smaller items yet undetermined to be added. Last year's total income was Eleven Thousand, Five Hundred and Sixty-three Dollars (\$11,563.00). A detailed statement of expected income for this year based on last year's figures of registrations, etc., showed an expected income of Eleven Thousand, Six Hundred and Sixty-five Dollars (\$11,665.00), which is to a considerable extent dependent on registrations since annual dues bring only Three Thousand, Three Hundred and Seventy-five Dollars (\$3,375.00) at the present rate of Five Dollars (\$5.00) per annum and with many exemptions from payment. Should registrations fall off for any reason, the deficit will mount accordingly. A deficit of at

least Six Hundred Dollars (\$600.00) this year may be expected. This is due to the addition of office staff as decided by the Executive Committee.

It was suggested by Committee members that steps be taken to change "The Medical Act" to allow the College to charge and collect more than the present limit of Five Dollars (\$5.00) per annum. This will need to come as a recommendation to Semi-annual Council in May.

The question of reducing the indemnity paid to representatives for attendance at meetings was discussed and it was suggested that where possible more than one meeting be held on one day to reduce travel expense.

The Committee were unanimous in opposing any reduction of our reserves to meet current expense though interest on bonds may be so used if imperative. The Committee also suggested serious consideration of changing part of our bond holdings for others of higher interest rate acceptable to the provisions of the Medical Act.

2. Discussion was had concerning the addition of a second office assistant to the C.P. & S. staff and the consequent request for purchase of office desk, chair, and typewriter. Dr. Macfarland explained the increase of office work consequent upon correspondence with displaced persons, medical practitioners, wishing to come to Manitoba from abroad for registration. Also increase of work due to Specialist Registry, Medico-Legal Society and other items that have increased the office load. Asked if this was temporary or permanent, Dr. Macfarland does not think the College may look forward to any material decrease in the volume of work to be handled. The Finance Committee feel that if this is so we have no alternative but must provide sufficient assistance and furniture for the job. However, we must consider ways and means of increasing our annual income to meet the increased budget.

Motion: "THAT the Registrar be instructed to purchase a desk, chair, and typewriter as requested, and that this be paid for out of interest balance on hand in the Investment Trust Account." Carried.

3. Discussion was had concerning a request from the Library Committee of the Medical College that our annual grant be increased to One Thousand Dollars (\$1,000.00). It was pointed out that this was not a "special" grant but an annual commitment for a higher amount. It was also pointed out that there is provision for assessing Winnipeg members of the profession an annual charge for use of the library, and it was suggested that in consultation with the Library Committee this angle be discussed.

Motion: "THAT we regret our finances do not permit of complying with the request of the Library Committee for an increased grant." Carried.

It was agreed that another meeting of the Finance Committee, when more time is available for full discussion, should be held before the May semi-annual Council meeting.

Position Wanted

Young doctor, 2 years internship and two and one-half years practice, desires general practice in small town with no initial investment, alternative to relieve doctor wishing to take post-graduate work. Available September or earlier. Apply Box 401, Manitoba Medical Review.

Medical Partnership

For Sale — One-half interest in a thriving partnership engaged in general practice in the heart of the prosperous farming area of the Carrot River Valley. The office building has seven examining rooms, 200 MA X-ray, electrocardiograph, well equipped laboratory, B.M.R., and diathermy. The 100 bed hospital is fully modern, well equipped and has a grade A rating by the American College of Surgeons. There is an excellent opportunity for surgery. The owner is leaving June 1 for post graduate study. Apply Dr. J. C. Creasy, Tisdale, Sask.

Medical Officers Wanted

for employment with the
DEPARTMENT OF HEALTH AND PUBLIC WELFARE

Province of Manitoba

**THOSE QUALIFIED WITH DIPLOMA
IN PUBLIC HEALTH**

or equivalent qualifications:

Salary Range: \$6,000 - \$6,900 per annum

**THOSE GRADUATES OF APPROVED
MEDICAL SCHOOLS
WITHOUT DIPLOMA IN PUBLIC HEALTH:**

Salary Range: \$4,320 - \$5,580 per annum

Bursaries available to those wishing to qualify for D.P.H. at a later date.

Positions offer all Civil Service benefits including pension plan, three weeks' vacation with pay annually, and liberal sick leave with pay.

Apply for full particulars to:

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247 Legislative Building,
Winnipeg, Manitoba